

SPECIAL PROVISION SPECIFICATIONS

1. GOVERNING SPECIFICATIONS

The Contractor shall perform all work, including providing all materials in accordance with the Port Authority of the City of Bloomington General Specifications.

In the following Specifications, reference is made to “Mn/DOT Specifications” which means the “STANDARD SPECIFICATIONS FOR CONSTRUCTION” of the Department of Transportation of the State of Minnesota, 2016 edition including all supplemental specifications and other updates. All materials and methods shall comply with the Standard Specifications and Supplemental Specifications unless modified in these documents.

The Port Authority of the City of Bloomington’s General Specifications, Standard Utility Specifications for Sanitary Sewer and Storm Sewer Installation and the Standard Utility Specifications for Watermain and Service Line Installation prepared by the City Engineers Association of Minnesota (current editions) shall apply to all work and material furnished under this Project except as modified by these Supplemental Specifications and the Special Provisions.

Copies of the Standard Utilities Specifications are available from the City Engineers Association of Minnesota. To obtain a copy visit their web site at www.CEAM.org.

Numbers following the various specification sections refer to Mn/DOT specification numbers except for the sewer system sections (2621) and the water system (2611) which refer to CEAM specification sections.

2. VIBRATION

The Contractor may need to make adjustments to their construction practices if damage to adjacent facilities may result from their operations. The Contractor is responsible to monitor and make necessary changes if any are needed. Any monitoring or changes in operations will be at the Contractor’s expense.

3. SUPERVISION BY CONTRACTOR (1506)

The Contractor is responsible for meeting the provision of 1506 and the following:

The competent Superintendent and/or competent individual (if different) shall not be an operator or laborer. The competent individual shall be available to the Project at all times and the competent superintendent will be required to be on the site at least daily while working days are being assessed. The Engineer may decide to require the Superintendent to be on the site more frequently if necessary.

The Contractor shall furnish names, addresses, and phone numbers of at least three (3) individuals responsible for all aspects of maintenance (including traffic control devices) on the Project. These individuals shall be “on call” 24 hours per day, seven (7) days per week. The individual “on call,” upon receiving notification of any deficiency, shall dispatch people, materials, and equipment to correct the deficiency within one hour of notification.

All of the above information shall be submitted to the Engineer at the Preconstruction Conference.

4. EXISTING UNDERGROUND UTILITIES (1507)

The plan will show the quality level of the subsurface utility information according to the guidelines of CI/ASCE 38-2 entitled "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data". If no quality level is shown, the Contractor shall assume it is quality level D. Every effort is made to the position and dimension of all existing underground utilities on the Plans. This information is obtained from the respective utility companies and the City record plans. The Port Authority and the City of Bloomington does not guarantee the locations as shown on the Plans. The Contractor is responsible to ascertain the final location of these utilities (including municipal water and sewer lines and appurtenances) and to notify the utility companies when construction starts in each area. The Contractor shall contact Gopher State One-Call (651-454-0002) at least 48 hours (excluding Saturdays, Sundays and holidays) before any excavation.

The Contractor is responsible for the protection of all underground utilities, which are located in the field or are shown on the Plans. The Contractor shall adjust all manhole and catch basin castings, water valve boxes, and curb boxes, which require such adjustment. After adjustment, all manholes, valve boxes and curb boxes shall be 1/4" below finish grade and in proper working order. Curb boxes and valve boxes must be plumb and concentric about the operating nut. Storm and sanitary sewers and water valve boxes must be carefully protected. If manhole covers or castings are removed provisions shall be made to seal and protect the structures and pipes from construction debris or sediment inflow throughout the duration of the construction project. Any sand or debris caused by the Contractor's operations must be immediately removed from the manholes, pipes, and valve boxes.

Before the Contractor removes manhole castings or lowers gate valve boxes, it will be the Contractor's responsibility to make location ties for these structures so they can be relocated accurately after the base course is constructed, and in case of emergency use of these facilities. Copies of all the ties shall be promptly furnished to the Port.

The Contractor shall report to the Engineer, in writing, any undesirable conditions, such as sand in manholes, pipes, damaged valve boxes, broken castings, etc. before commencing work on any street. Once excavation or utility construction has started, it will be assumed that all damage to underground installations except that reported as noted above, was caused by the Contractor's operations and is the Contractor's responsibility to repair.

Wherever existing utility structures or branch connections leading to mains or other conduits, ducts, pipe or structures present obstructions to the grade and alignment of the pipe which require a change in plans or revision to the existing utility, the Engineer will provide new grades for the new utility or a plan for revising the existing utility within 48 hours of the location of the existing utility. If the Contractor elects not to uncover existing utilities and a conflict between utilities occurs, the Contractor shall be required to relay pipe or revise the existing utility, as directed by the Engineer, with no additional compensation allowed therefore.

When required for the new construction, the removal of portions of abandoned utility lines and pipes will be considered incidental work and no direct compensation will be made therefore. Disposal shall be by the respective utility company.

The Contractor shall locate, protect, alter and restore all existing sprinkler systems. Before construction work begins, the Contractor shall locate the elements of the system and plug only those sections in the construction area. During construction the remaining portion of the system (outside the limits of construction) shall continue to operate. After construction is complete and before sod is replaced, the system shall be restored to water all turf as it did before construction. If the Contractor does not allow the system outside the construction area to operate, the cost of replacement of turf and landscaping shall be entirely at the Contractor's expense.

The cost of restoring irrigation systems shall be considered force account work as specified in Article No. 7 of the General Specifications unless a specific pay item is included in the Special Provisions.

5. CONSTRUCTION STAKES – ALIGNMENT AND GRADES (1508)

The Contractor shall contact the Wenck site supervisor or authorized project representative at least 48 hours (excluding weekends and holidays) before their needs for construction stakes or other survey work. The Contractor shall review any known survey needs of the project with the Engineer at the pre-construction meeting.

6. EMPLOYEE HEALTH AND WELFARE (1706)

The provisions of Mn/DOT 1706 are supplemented with the following:

The Contractor shall perform all construction operations in compliance with the applicable laws, regulations, and industry standards as described in Mn/DOT 1706. The Contractor shall be considered to be fully responsible for the development, implementation and enforcement of all safety requirements on the Project, notwithstanding any actions the Port Authority or the City of Bloomington may take to help ensure compliance with those requirements.

The Contractor shall submit a copy of its written safety program for review at the Preconstruction Conference. At a minimum, the Contractor must have an established AWAIR/Safety Program containing the following:

- Right to Know
- Personal Protective Equipment
- Respiratory Protection
- Hearing Conservation
- Lockout/Tagout
- Permit-Required Confined Space Entry
- Fire Protection
- Blood Borne Pathogens
- Trenching & Excavating
- Mobile Earth Moving Equipment

This safety program shall contain name(s) of person(s) responsible for all safety requirements and/or the Contractor's Designee(s) shall be available at all times that work is being performed. The Contractor's designee(s) shall be responsible for correcting violations on the Project as observed by the Engineer or designated representative.

The Contractor is advised that the City of Bloomington determined that all existing manholes, catch basins, and similar type enclosed structures on storm sewer systems, water distribution systems, and sanitary sewer systems contained within the right-of-way of all roadways and within the construction limits of this Project are confined spaces and access into them shall be in accordance with the MINN.RULE5207.0300-0304. All new structures of the same type and function of the aforesaid which are to be constructed as a part of this Project shall also be considered confined spaces and access into them shall be in accordance with the OSHA Regulation 29 CFR 1910. Further, the Contractor shall be required to abide by the Permit-Required Confined Space Policy and Contractor Safety and Health Policy of the City of Bloomington, in addition to the 29 CFR 1910 Occupational Safety & Health Administration (OSHA) and Minnesota Rules 5207.

The Contractor shall have the sole responsibility to have a confined entry program which complies with OSHA. The Contractor's program shall address, but need not be limited to, access into manholes, catch basins, and similar type enclosed structures on storm sewers, water distribution systems, and sanitary sewer systems that are to be constructed, reconstructed, adjusted, repaired, or otherwise modified as part of this Project. The Contractor's program shall establish acceptable entry conditions for the various classifications of confined spaces (e.g. CLASS I, CLASS II.) identified in OSHA Regulation 29 CFR 1910.146. The Contractor shall have an adequately trained individual who shall be responsible for classifying each confined space in accordance with the Contractor's confined space entry program, and ensuring compliance with same by all of the Contractor's employees and all other individuals within the Contractor's control entering confined spaces on this Project. The Contractor shall develop and implement site-specific procedures to coordinate entry operations when employees of more than one employer are or will be working simultaneously in a confined space.

The Contractor's confined entry program shall clearly address its applicability to all subcontractors and their employees that will be utilized for this Project. The Contractor's responsibility will be to ensure compliance with OSHA by all subcontractors and their employees on this Project either through the Contractor's own program or through separate programs established by the subcontractors working on this Project.

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions required in connection with their work on this Project, including regulations of the Occupational Safety and Health Administration (OSHA) and other regulatory and governing agencies.

The Port Authority and the City of Bloomington assume no responsibility or liability for the Contractor's compliance with applicable federal and state regulations and safe work practices. The Contractor shall remain at all times solely responsible for the sufficiency of its safety program and its compliance with applicable federal and state regulations.

The Contractor shall not use any motor vehicle equipment on this Project having an obstructed view to the rear unless:

- (A) The vehicle has a reverse signal alarm which is audible above the surrounding noise level; or
- (B) The vehicle is backed up only when an observer signals that it is safe to do so.

A \$500.00 monetary deduction (per incident) may be assessed by the City for violations of safety standards and requirements that have the potential for loss of life and/or limb of Project personnel

or the public. The areas of special concern include, but are not limited to, excavation stability protection, fall protection, protection from overhead hazards, vehicle backup protection, confined space safety, blasting operations, and personal safety devices.

None of the monetary deductions listed above shall be considered by the Contractor as allowance of noncompliance incidents of these safety requirements on this Project.

7. MAINTENANCE OF TRAFFIC (1404), PUBLIC CONVENIENCE AND SAFETY (1707) AND TRAFFIC CONTROL (2563)

All traffic control devices shall conform and be installed in accordance with the latest version of:

- the "Minnesota Manual on Uniform Traffic Control Devices" (MN MUTCD);
- the "Field Manual for Temporary Traffic Control Zone Layouts" (Field Manual);
- the "Guide to Establishing Speed Limits in Highway Work Zones";
- the Minnesota Flagging Handbook;
- the Minnesota Standard Signs Manual;
- the Traffic Engineering Manual;

And the provisions of MnDOT 1404 and 1710, the Plan, and these Special Provisions.

The Contractor shall furnish, install, maintain, and remove all traffic control devices required to provide safe movement of vehicular and/or pedestrian traffic passing through the Project and/or work zone during the life of the Contract from the start of Contract operations to the final completion thereof. The Engineer will have the right to modify the requirements for traffic control as deemed necessary due to existing field conditions.

Traffic control devices include, but are not limited to, barricades, warning signs, trailers, flashers, cones, drums, pavement markings and flaggers as required and sufficient barricade weights to maintain barricade stability. Type III barricades shall have full reflectors on both sides of the barrier. All barriers shall have reflective coatings on all sides of the barricade.

The Contractor shall, at the Preconstruction Conference, designate a Work Zone Safety Coordinator who shall be responsible for safety and traffic control management in the Project work zone. The Work Zone Safety Coordinator shall be either an employee of the Contractor such as a superintendent or a foreman, or an employee of a firm which has a subcontract for overall work zone safety and traffic control management for the Project. The responsibilities of the Work Zone Safety Coordinator shall include, but not be limited to:

- Coordinating all work zone traffic control operations of the Project, including those of the Contractor, subcontractors and suppliers.
- Establishing contact with local school district, transit agency, government, law enforcement, and emergency response agencies affected by construction before work begins.
- Maintaining record of all known crashes within a work zone. This record should include all available information, such as: time of day, probable cause, location, pictures, sketches, weather conditions, interferences to traffic, documentation of work zone

traffic control devices, etc. These records shall be made available to the Engineer upon request.

The Contractor shall inspect, on a daily basis, all traffic control devices, which the Contractor has furnished and installed, and verify that the devices are placed in accordance with the Traffic Control Layouts, these Special Provisions, and/or the MnMUTCD. Any discrepancy between the placement and the required placement shall be immediately corrected. The person performing the inspection shall be required to make a daily log.

The Contractor is required to meet the traffic control device quality standards as determined in the Field Manual. The Contractor shall immediately replace traffic control devices that are deemed unacceptable. Signs that are dirty and result in a noticeable loss of reflectivity at night are also considered unacceptable and shall be cleaned or replaced. The Contractor shall be required to respond immediately to any call from the Engineer or Engineer representative concerning the notification of unacceptable traffic control devices.

Unless otherwise noted in the plans or specifications, the Contractor shall keep the street and sidewalks under construction open to all traffic and in safe operating condition. This work shall be incidental and no direct compensation shall be made therefore. The work shall be scheduled to maintain access to the maximum extent possible to and from nearby properties.

Specific traffic control layouts may not be shown in the plan. The Contractor shall submit traffic control plans to the Engineer for approval two weeks before installing any traffic control device. Any work by the Contractor that will close any street shall warrant a signed detour unless otherwise approved by the Engineer. This detour, like any other traffic control layout, shall be submitted to the Engineer for approval. A street name sign shall be placed above or incorporated into a detour (M4-9) sign to show the name of the street being detoured. At least 24 hours before placement, all traffic control devices shall be available on the Project for inspection by the Engineer. The Contractor shall modify their proposed traffic control layout and/or devices as deemed necessary by the Engineer.

If the Contractor requests to close the road and the Engineer approves that it is necessary to temporarily detour traffic to remove or set the structures, the Contractor shall furnish the detour as directed by the Engineer. Such requests shall be submitted to the Engineer, for approval, at least fourteen (14) days before the proposed road closure. The temporary detour shall be incidental work for which no direct compensation will be made.

All detours required shall be approved by the Engineer fourteen (14) days before use. Detour signs and barricades shall conform to the requirements of the Minnesota Manual on Uniform Traffic Control Devices and illustrations in the Plans, if applicable. Placement shall be as approved by the Traffic Engineer. All barricades and signing used to close any facility shall have flashers at each end. Properly equipped flaggers shall be used as required to facilitate good construction and provide safe driving conditions. Barricades and detour signs that are not in use shall be promptly removed from the construction area.

Maintenance of the streets and sidewalks under construction, detours, bypasses, and equipment yards used in conjunction with the Project shall be the responsibility of the Contractor. Said maintenance shall include keeping the streets and sidewalks free of obstacles, parked equipment, barricades which are not in use, maintaining the traveled ways, and controlling the dust in the

construction area; and replacing signs and barricades during and after storms, high winds and damage caused by traffic. Streets and sidewalks in the area, not under construction shall be kept free of construction materials, dirt, or other undesirable material. All traffic control devices shall be clearly marked with 24 hour/7day phone number and company name.

The Contractor shall furnish names, addresses and phone numbers of at least three (3) individuals responsible for the placement and maintenance of traffic control devices. At least one of those individuals shall be "on call" 24 hours per day, seven days per week, during the times any traffic control devices, furnished and installed by the Contractor, are in place or when any areas are under construction. Any traffic control devices in-place overnight shall have MnMUTCD approved warning lights. Type III barricades shall have full reflectors on both sides of the barrier and 2 flashers when they are used for closures (roads, sidewalks, or other facilities). All barriers shall have reflective coatings on all sides of the barricade. All stop signs shall have a red flashing warning light. The Contractor shall have at least 20 sandbags, 5 extra barricades, 5 barrels, 5 Type III barricades with 2 flashers, and 5 Type I barricades with flashers stored at a convenient location on-site for use in an emergency.

In some areas the Engineer may provide Type C "Contact Bloomington" informational signs with posts for the Contractor to install at sites to be determined during the construction. The Contractor shall be responsible to make the "one call" for utility locations and properly install these signs without any additional compensation.

General Requirements

All portable sign assemblies shall be perpendicular to the ground. No traffic device (signs, channelizing devices, arrow boards, etc.) shall be weighted so they become hazardous to motorists and workers. The approved ballast system for devices mounted on temporary portable supports is sandbags, unless it is designed, crash tested, and approved for the specific device. During freezing conditions, the sand for bags shall be mixed with a de-icer to prevent the sand from freezing. The sandbags shall be placed and maintained at the base of the traffic control device to the satisfaction of the Engineer.

When signs will remain in the same location for more than 30 consecutive days, the signs shall be post mounted. This would not include portable signs which are set up and taken down at the beginning and end of each work shift.

When signs are installed, they shall be mounted on posts driven into the ground at the proper height and lateral offset as detailed in the MnMUTCD.

The Contractor shall be required to cover or remove all traffic control devices which may be inconsistent with traffic patterns during all traffic switches.

Open excavations adjacent to the existing pavement will not be permitted on opposite sides of the roadway at the same time.

The Contractor shall provide protective devices, including concrete barriers, necessary to protect traffic from excavations, drop-offs, falling objects, splatter or other hazards that may exist during construction. This work shall be an incidental cost to the Contractor, unless otherwise specifically called out on the plan.

The Contractor will not be permitted to park vehicles or construction equipment so as to obstruct any traffic control device. The parking of workers' private vehicles will not be allowed within the Project limits unless so approved by the Engineer.

The Contractor will not be allowed to store materials or equipment within 10 m [30 feet] of through traffic unless approved by the Engineer. If materials or equipment must be stored within 10 m [30 feet] of through traffic, the Contractor shall provide barricades or barriers, as directed by the Engineer, to warn and protect traffic.

During reclaiming, or pavement removal operations, proper lane closures shall be set up well before the operations. "Uneven pavement" signing shall be in place, in addition to all other traffic control as specified in the MnMUTCD, until paving of the wear course takes place.

Street identification signage shall be maintained at all times. Where the only existing signs are small city or county signs located at the intersection, street names and address numbers shall be maintained by temporary installations as required by the Engineer. This is necessary to maintain the 911 emergency system.

The Contractor shall be required to supply manpower to help City of Bloomington personnel in temporary or permanent pavement marking related projects such as, but not limited to, collecting data from in place lane lines and marking final pavement marking alignments. This shall also include any lane closures or traffic control necessary to complete these projects safely. Payment for said pavement marking related projects shall be incidental to the pavement marking items for which no direct compensation will be made.

High Visibility Personal Protective Equipment Specification

All workers within the road right-of-way who are exposed to either traffic or to construction equipment shall wear reflectorized high visibility safety apparel. High-visibility safety apparel means personal protective safety clothing that is intended to provide conspicuity during both daytime and nighttime usages, and meets the Performance Class 2 requirements of the ANSI/ISEA 107- 2004 publication entitled "American National Standard for High-Visibility Safety Apparel and Headwear."

Additional Requirements: ANSI/ISEA 107-2004 Class 3 Requirements (Class 2 Vest with Class E Long Pants)

- Flag Persons – In addition to an ANSI Class 2 hat, vest, shirt, or jacket, flaggers shall wear high visibility Class E long pants.
- Nighttime and Low Light Conditions – All workers working at night or in low light conditions shall wear high visibility Class E long pants in addition to an ANSI Class 2 vest, shirt or jacket.

All high visibility apparel must be worn in the manner for which it was designed. All apparel worn on the torso must be closed in the front to provide contiguous 360 degree visibility. If a worker's high visibility personal protective equipment becomes faded, torn, dirty, worn, or defaced, reducing the conspicuity of the apparel, the apparel shall be removed from service and replaced with new apparel.

Night Work

When work will be performed between the official hours of sunset and sunrise, all appropriate practices for night work will apply.

The Contractor shall provide sufficient numbers of light plants to illuminate the work area as determined by the Engineer. All costs incurred to provide such light plants shall be incidental.

All Contractor's personnel, except operators who will remain in their vehicles at all times, shall wear reflectively striped (approximately 33 feet [10 m] of striping), highly visible, short sleeved one or two piece coveralls, at all times while working on the Project. These coveralls shall be considered an incidental. Any Contractor's employee found on the Project not wearing the prescribed reflective coveralls will be immediately ordered off the Project by the Engineer.

The Contractor shall provide a sufficient amount of 2 inch [50 mm] wide highly reflective vehicle marking tape to be applied to Contractor vehicles and equipment, as directed by the Engineer, and as provided by the manufacturer's instructions. This tape shall be considered incidental and shall be Conspicuity Vehicle Sheeting (Type VII). Vehicle examples to be marked with tape are Contractor rollers, paver, millers and other equipment normally found in the lane closure.

The Contractor will be subject to a monetary deductions in the amount of \$1000.00 for each Calendar Day or portion thereof, that the Contractor does not provide sufficient numbers of light plants. As light plants may be dedicated or otherwise made available to the Project, this assessment will be chargeable even if reasons beyond the control of the Contractor such as breakdowns, late delivery of materials, weather delays, or other unanticipated problems cause the work to be accomplished in non-daylight hours.

Traffic Flow and Access

Traffic flow shall be maintained to the fullest extent possible, especially during morning and afternoon rush hours. Access to abutting properties will be required on all streets. On any project where excavation adjacent to existing curb and gutter will cause a barrier to residents, delivery and emergency vehicles that may need access to driveways, the Contractor shall provide ramps or other means of access during construction. At least one 11-foot wide lane of traffic shall remain open on streets. Some streets require two (2)-11' lanes to be operable. On streets that require two (2) – 11' lanes to be operable, that are 40' wide or less, work will only be allowed on one side of the street at a time. Areas where excavated crossings of the street surface disrupt traffic, the existing street structure shall be restored within 24 hours of completion of the work excluding the wearing course.

The Contractor shall furnish and erect signs and barricades before work starts on any street, and shall maintain the signs and barricades along the route in accordance with these specifications, the MnMUTCD, and as approved by the Traffic Engineer. In areas designated by the Engineer, speed advisory signs may be required as a part of construction signing.

The Engineer and residents shall be kept informed of the work schedule in a written format and the work shall be scheduled to maintain access to the maximum extent possible.

As a precautionary measure from a soils and traffic safety standpoint, traffic lanes to be used during construction must be delineated to keep vehicles a safe distance away from the adjacent excavation. The delineation should coincide with points established by projecting 1:3 (rise: run) or greater (flatter) slope between the edge of the traffic surface and the bottom of the excavation. In

areas of muck excavation, use 1:30 or flatter. Where sheeting is in place 3:1 (rise: run) can be used. Traffic surface is defined as the traffic lane plus the longitudinal buffer.

If hauling operations create hazards for the traveling public, the Contractor will be required to provide additional flaggers, as directed by the Engineer. All costs incurred to provide the additional flaggers shall be incidental to the lump sum traffic control.

Any construction vehicle (i.e. water truck) within an operable traffic lane must obey the rules of the road. If an action is needed that does not obey the rules of the road, appropriate work zone traffic control must be in place.

Pedestrian Traffic

Pedestrian traffic shall be maintained and guided through the Project at all times.

The provisions of MnDOT 1803 are supplemented and/or modified with the following:

SPECIAL PROJECT ADA REQUIREMENTS

All pedestrian facilities and shared trails on this Project must be constructed according to Public Rights-of-Way Accessibility Guidelines (PROWAG) which can be found at: : <http://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/background/revised-draft-guidelines> and the 2010 ADA Standards for Accessible Design, which can be found at: http://www.ada.gov/2010ADASTandards_index.htm. The appropriate pedestrian ramp details for each quadrant are included in the Plan. The Engineer may provide additional details to those provided in the Plan that meet the PROWAG guidelines as the need arises and field conditions dictate.

(A) The Contractor must designate a responsible person familiar with PROWAG to assess proposed sidewalk layouts at each site before work begins. Any time work the Contractor is performing concerns pedestrian facilities, the Contractor's representative shall be on site.

(B) The Contractor must construct Pedestrian facilities to meet the following criteria:

(1) Construct Pedestrian Access Routes (PAR) to meet the following:

- Minimum 4 feet width.
- A maximum cross slope of 2.0%.
- Vertical discontinuities must be less than 0.25 inches.
- Must provide positive drainage without allowing any ponding.
- All grade breaks shall be constructed perpendicular to the path of travel.

(2) Construct landings, which are part of the PAR, to meet the following:

- 4 feet by 4 feet minimum width.
- Maximum slope of 2.0% in all directions.
- Required at all locations where the PAR changes directions.
- Must be connected to the PAR.
- All grade breaks shall be constructed perpendicular to the path of travel.

(3) Construct ramps, which are part of the PAR, to meet either of the following criteria:

- Longitudinal slopes less than 5% in the direction of travel requires no landing at the top of the ramp (unless the PAR changes direction).
 - Longitudinal slopes between 5 - 8.3% in the direction of travel require a landing at the top of the ramp.
- (C) If the Contractor constructs any pedestrian or shared-use trail facilities that are not per Plan, do not meet the above requirements, or do not follow the agreed upon resolution, the Contractor shall be responsible for correcting the deficient facilities with no compensation paid for the corrective work. To ensure that the pedestrian facilities are constructed in compliance with PROWAG, the Contractor shall follow the following three steps:
- (1) The Contractor shall use the appropriate ramp details in the Plan and identify the removal limits for the sidewalk and curb and gutter. If Contractor determines the removal limits are not adequate to meet PROWAG, the Contractor shall stop work immediately and consult the Engineer to determine the best solution. Once the Engineer and the Contractor reach agreement on how to proceed, the Contractor may finish the removals.
 - (2) The Contractor shall not alter any existing drainage patterns unless called for in the plans or approved by the Engineer.
- Before pouring each curb and gutter segment, the Contractor must verify the zero height curb and curb transitions will be located as shown in the Plans and will provide an adequate detectable edge as shown on MnDOT Standard Plan Sheet No. 5-297.250 (Sheet 5 of 5). The Contractor shall also verify the proposed curb flow lines will provide positive drainage as well as maintain existing gutter inflows/outflows. The curb and gutter shall be constructed as detailed in the Plan with a defined flowline and no vertical discontinuities. The Contractor shall consult with the Engineer to determine a resolution if any of these conditions cannot be met. Once the Engineer and the Contractor reach agreement on how to proceed, the Contractor may proceed with pouring the curb and gutter.
- (3) After the curb has been correctly poured, the Contractor has set the sidewalk forms, and before placing the concrete curb ramps/sidewalks, the Contractor shall verify all requirements will be achieved. If any of these requirements cannot be met the Contractor shall meet with the Engineer to determine the best solution. Once the Engineer and the Contractor reach agreement on how to proceed, the Contractor may proceed with the curb ramp/sidewalk pour.
- (D) It shall be the responsibility of the Contractor, or Contractor's Surveyor if applicable, to layout all proposed work at each intersection in accordance with the Plan and requirements listed in the Special Provisions. The Contractor may confer with the Engineer for guidance in laying out the proposed work, but it will be the Contractor's responsibility to ensure the proposed work meets all the requirements of this section and the Special Provisions. This layout includes, but is not limited to placement of grade breaks, curb transitions, gutter flow lines, truncated dome placement, crosswalk marking placement, flares, landing limits, and ramp limits. It is important that the Contractor layout this work properly to achieve the construction of a compliant pedestrian facility. This layout work shall be incidental.

If contractor surveying is not called for in the Contract, the City's surveyor will only stake points and elevations provided in the Plan. For detail (i.e. custom) designs, other than specific dimension provided in the Plan, the Contractor shall be expected to scale dimensions from the Plan as needed to construction the facility.

- (E) The Contractor shall utilize measures and methods when working near existing buildings that will avoid damaging the building's face or structure or other private property. The Contractor will be responsible for any damage to the building's face or structure, both below and above ground or other private property. Any damage resulting from Contractor operations will be repaired at the Contractor's expense to the satisfaction of the Engineer.
- (F) The Contractor shall round all joints and edges of the walk with a ¼ inch radius edging tool, contraction joints shall extend to at least 30 percent of walk thickness and shall be approximately 1/8 inch wide as per MnDOT 2521. The Contractor shall also have the option of providing saw cuts to construct the sidewalk joints. This work shall be considered incidental.
- (G) All pedestrian signal systems should be installed as shown in the Plan and must be constructed to meet the following criteria. The Contractor shall verify that the proposed push button locations will meet all of the following criteria before proceeding with the installation of the pedestrian push button system:
 - Pedestrian push buttons shall be oriented with the button facing towards the intersection and the button face placed parallel to the outside edge of the crosswalk.
 - Pedestrian push buttons shall be at least 4 feet and a maximum of 10 feet from the back of curb/edge of roadway, but may be placed 1.5 feet to 4 feet from the back of curb/edge of roadway if mounted on a signal pole as shown in the Plan or as approved by the Traffic Engineer.
 - Pedestrian push buttons shall be located at the outside crosswalk edge and shall be no more than 5 feet offset from the projected outside edge of the crosswalk/outside edge of detectable warnings.
 - Pedestrian push buttons shall be at least 10 feet apart, except in islands and medians, where the minimum separation is 5 feet.
 - Each pedestrian push button shall have a landing immediately adjacent to the push button face with minimum dimensions of 4 feet by 4 feet and a maximum slope of 2.0% in all directions. Center the push button on the landing if possible to do so without violating any of the requirements listed in this Special Provision. The landing must be connected to the Pedestrian Access Route.
 - A 6-foot wide clear distance between obstructions shall be maintained wherever it is possible to do so for snow removal purposes.
 - The push buttons shall be mounted at a height of 42 inches as shown in the Plan.
 - If it is possible to mount a push button on a signal pole and meet all the criteria listed in this Special Provision, then the push button shall be mounted on signal pole and the unused push button station components shall be considered surplus materials and delivered to City of Bloomington Western Maintenance Area, 10500 Hampshire Avenue. The Contractor shall notify the City of Bloomington Engineering Division at least three (3) days before the time the Contractor intends to deliver the surplus materials.

- Crosswalks shall be striped in a straight alignment between the outside edges of the detectable warnings with no kinks unless the crosswalks are shown as kinked in the Plan.
- The Contractor shall maintain all working points marked by the surveyor and use the working points to layout push button locations in accordance with the Plans and Special Provisions. The Engineer will verify the proposed push button locations are acceptable prior to construction.

If any of these conditions cannot be met, the Contractor shall consult with the Engineer to determine a resolution. Once the Engineer and the Contractor reach an agreement on how to proceed, the Contractor may proceed. If the Contractor constructs any pedestrian push button systems or pedestrian facilities which do not meet the criteria or the agreed upon resolution, the Contractor will be responsible for correcting the deficiencies with no compensation paid for the corrective work.

To help ensure signal systems are properly constructed the Contractor must adhere to the following practices:

- All push button station bases shall be poured either concurrently with or after the adjacent sidewalk pour. These bases shall be poured flush with all adjacent sidewalk within ¼ inch maximum vertical deflection as shown in the Plans.
- Signal pole foundations which are being constructed in or adjacent to sidewalk shall be constructed in accordance with the applicable plan detail. If a push button is proposed to be mounted on a signal pole, the Contractor shall determine the finished grade of the top of proposed sidewalk before pouring the signal pole foundation. The signal pole foundation shall not be more than 8 inches above the finish grade of the sidewalk and must still meet the applicable vertical clearance requirements of MnDOT 2565 and the *Standard Specifications for Traffic Control Signal Devices*. If this is not possible, the Contractor shall consult with the Engineer to determine the appropriate solution.

8. TEMPORARY PEDESTRIAN ACCESS CONTROL (2563)

This work consists of providing a Temporary Access Control Plan. This plan shall consist of identifying a Temporary Pedestrian Accessible Route (TPAR) and features needed to assist pedestrian, bicyclists and non-motorized vehicles safe movement within and around the construction zone. Conduct this work in accordance with Contract provisions and the following:

The Contractor shall develop and provide for a continuous Temporary Pedestrian Accessible Route (TPAR) for this Project. The TPAR shall clearly address all non-motorized users in the construction zone. The Contractor shall submit this plan to the Engineer for acceptance at the Preconstruction meeting.

PEDESTRIAN ACCESS

- (A) The TPAR must have a minimum width of 48 inches (4 feet) and guide pedestrians through and/or around the Project by using devices such as signage, barricades, and temporary curb ramps or blended transitions. The Contractor may provide an alternate route that is accessible and within 2 block(s) offset of the closed construction area. To the maximum extent feasible, the TPAR shall be provided on the same side of the street as the disrupted route. Where the TPAR is exposed to adjacent construction, excavation drop-offs, traffic, or other hazards, it shall be protected with a pedestrian barricade or

channelizing device. All TPARs must have a smooth, level, slip-resistant surface and shall meet the applicable requirements of the Public Right-of-Way Accessibility Guidelines (PROWAG).

- (B) The Contractor shall schedule and coordinate the replacement of the pedestrian access to accommodate the needs of the business and residences. Existing sidewalks shall be left in-place until it is required to remove them to accommodate new construction. Pedestrian access may be provided to businesses and homes by any public access from adjacent parking lots and side streets. Front door access must be provided to buildings without alternate public entrances. Where disrupted by construction, the Contractor must provide a continuous TPAR for all areas disrupted construction throughout all phases of construction.
- (C) For technical provisions on TPAR, the Contractor is directed to the Guidelines for Accessible Public Rights-of-Way and Chapter 6D of the MnMUTCD. The pedestrian accessibility checklist is on page 6D-5 and 6D-6 of the MnMUTCD. The Contractor shall complete MnMUTCD Fig. 6D-1, "Pedestrian Accessibility Considerations in Temporary Traffic Control Zones Check List". A copy shall be provided to the Engineer at the preconstruction meeting.
- (D) The Contractor shall notify the Engineer in writing at least 72 hours before the start of any construction operation that will necessitate a change in pedestrian access.

Traffic control devices must allow for an accessible route through the Project. TPAR pedestrian barricades and channelizing devices shall be continuous, stable, and non-flexible and shall consist of a wall, fence, or enclosures. The base of any traffic control devices shall be a continuous raised barrier of no more than 6 inches in height and must allow for drainage. The purpose of this barrier is to provide a continuous wayfinding device for the visually impaired, therefore the barrier shall not have any points that might catch a person who is using a cane for a guide. The Devices shall provide a continuous surface or upper rail at a minimum 3 feet above the ground or walkway surface. Support members shall not protrude into the path. Whenever possible the TPAR shall only utilize in-place street crossings. TPAR must be regularly inspected and updated depending on Project staging.

No pedestrian curb ramp or blended transition work shall occur concurrently at adjacent intersections. The idea is that the contractor will stage work so that work only occurs on one side of the street and at every other intersection.

The Contractor shall be responsible for maintaining the TPAR within this Project. The Contractor shall furnish the name, addresses, and phone number of at least one individual responsible for the placement and maintenance of TPAR. This individual shall be "on call" 24 hours per day, seven days per week during the times any devices, furnished and installed by the Contractor, are in place. The required information shall be submitted to the Engineer at the Preconstruction meeting.

The Contractor shall be expected to answer calls immediately and begin corrective measures needed within one hour. If the Contractor is negligent in correcting the deficiency within one hour of notification the Contractor shall be subject to a monetary deduction at the rate of \$100.00 per hour when only one residence or location is affected and at the rate of \$500.000 per hour in all other cases that the Engineer determines the Contractor has not complied.

The Contractor is advised that the corridor has Transit service. Re-locations of stops can only be made with the approval of the Engineer.

Only one side of the roadway may be disrupted at a time for pedestrian curb ramp, blended transition, or sidewalk construction. Where it is not feasible to provide a same-side TPAR and pedestrians will be detoured, the alternate route must provide a similar level of accessibility to the existing route. This may include the incorporation of accessible pedestrian signals (APS), curb ramps, or other accessibility features.

All traffic control required under this Contract for pedestrian access shall be performed as incidental work for which no direct payment will be made.

The Contractor may ban parking within the construction limits with the approval of the Engineer. All necessary signing is the responsibility of the Contractor and shall be installed, as directed by the Engineer, 24 hours before the parking ban. The Contractor shall remove that signing as soon as the work or that part of the work, in the area has been completed.

Traffic Control Inspection Log

During the time that any traffic control devices, furnished and installed by the Contractor, are in place, the Contractor shall provide a person on a daily basis to inspect and ensure that all traffic control devices required are installed properly and conform to the MnMUTCD. Any discrepancy between the actual devices in use and the required devices shall be immediately rectified.

This log shall also include the date and time any changes in the stages, phases, or portions thereof go into effect. The log shall identify the location and verify that the devices are placed as directed or corrected in accordance with the Plan. All entries in the log shall include the date and time of the entry and be signed by the person making the inspection. The person or persons performing the inspection shall be required to make a daily log (including weekends and holidays) of these inspections.

Copies of these logs must be submitted to the Engineer each Monday while there is traffic control on the Project. No payment for Traffic Control will be made until these logs have been received and approved by the Engineer.

Traffic Control Maintenance

The Contractor shall be responsible for the immediate repair or replacement of all traffic control devices that become damaged, moved or destroyed, of all lights that cease to function properly, and of all barricade weights that are damaged, destroyed, or otherwise fail to stabilize the barricades. The Contractor shall further provide sufficient surveillance of all traffic control devices at least once every 24 hours.

In the event of severe weather conditions, the Contractor shall provide additional personnel and equipment to maintain all traffic control devices.

The Contractor shall maintain all traffic control at all times but particularly after storms, at night, and on weekends with or without notice by the Engineer.

Vehicle Warning Light Specification

All Contractors', subcontractors' and suppliers' mobile equipment, operating within the limits of the Project with potential exposure to passing traffic, shall be equipped with operable warning lights which meet the appropriate requirements of the SAE specifications. This would include closed roads that are open to local traffic only. This also includes any vehicle which enters the traveled roadway at any time. The SAE specification requirements are as follows:

360 Degree Rotating Lights – SAE Specification J845

Flashing Lights – SAE Specification J595

Flashing Strobe Lights – SAE Specification J1318

Lights shall be mounted so that at least one light is visible at all times from a height of 3.5 feet and from a 100 foot radius about the equipment. To meet the 360 degree at 100 foot radius requirement, supplemental lighting may be used in addition to the lights on the Approved Products List. All supplemental lights must be SAE Class 1 certified. This specification is to be used for both day and night time operations. All costs incurred to provide warning lights shall be at no cost to the Port. These warning lights shall be operating and visible when a vehicle decelerates to enter a construction work zone and again when a vehicle leaves the work zone and enters the traveled traffic lane.

Any warning lights shall be on the Approved Products List for Vehicle Lighting which is found at the following weblink: <http://www.dot.state.mn.us/products/vehiclelighting/vehiclesafetylights.html>. The list may also be obtained by contacting:

Vehicle Warning Lights

Office of Construction MS650

Transportation Bldg.

OR by calling (651) 366-4216

395 John Ireland Blvd.

St. Paul, MN 55155

This list is updated periodically. Warning light suppliers and manufacturers may contact the above for information on adding new products to the list.

Flag Person (Flaggers)

Any person acting as a flagger on this Project shall have attended a training session taught by a Contractor's qualified trainer. The Contractor's qualified trainer shall have completed a "Mn/DOT Flagger Train the Trainer Session" in the five years previous to the start date of this Contract and shall be on file as a qualified flagger trainer in the Department. The Flagger Trainer's name and Qualification Number shall be furnished by the Contractor at the preconstruction meeting. Provide all flaggers with the Mn/DOT Flagger Handbook and observe the rules and regulations listed. This handbook shall be in the possession of all flaggers while flagging on the Project. The Contractor shall obtain handbooks from the Department. Flaggers shall not be assigned other duties while working as authorized flaggers. The "Checklist for Flagger Training" form shall be furnished to the Engineer anytime a new flagger reports to work on the Project. The "Checklist for Flagger Training" form can be found at: <http://www.dot.state.mn.us/const/wzs/documents/flaggertrainingchecklist.pdf>

The Contractor shall furnish flag persons as required to adequately control traffic on local streets. Flag persons shall conform to the requirements set forth in the MnMUTCD. All costs incurred to provide such flag persons shall be incidental to the lump sum of traffic control. The Contractor shall provide two-way radios for flag persons.

Flag persons shall wear high visibility retro-reflective safety vests, pants and hats at all times while actively flagging on the Project. High visibility apparel shall comply with current Minnesota OSHA Rules 5207.0100 and 5207.1000. The flag persons clothing shall be considered an incidental expense for which no direct compensation will be made.

Flag persons shall be equipped with a "Stop-Slow" paddle on a seven foot staff while directing traffic.

Except as otherwise authorized by the Engineer, the maximum length of the flagging operation shall be no more than 1.6 km [1 mile].

The Contractor shall coordinate the flagging operations in a manner which causes as little delay to the traveling public as possible, and at no time shall the delay exceed five (5) minutes. In the event that the Contractor is unable to meet the maximum delay requirements, operations shall shut down until a new traffic control plan is developed which does meet the maximum delay requirement.

If hauling operations create hazards for the traveling public, the Contractor will be required to provide additional flaggers, as directed by the Engineer. All costs incurred to provide the additional flaggers shall be incidental to the lump sum traffic control.

The Contractor shall furnish off-duty police officers in uniform with cars and an orange reflectorized vest to direct the traffic if deemed necessary and so ordered by the Engineer. "Police Officer" means every officer authorized to direct or regulate traffic or to make arrests for violations of traffic rules. No direct payment for police officers will be made; this work shall be incidental to the lump sum traffic control.

The Engineer will have the right to waive the above requirements.

Temporary Lane Closure Requirements

Unless otherwise authorized by the Engineer, any temporary lane closure extending to or beyond 300 m [1000 feet] shall have at least one (1) Type III barricade placed in the closed lane for every 300 m [1000 feet] of extension.

All temporary lane closures used at night shall have Type B Channelizers (plastic drum-like channelizers, Type I or Type II barricade) or Direction Indicator Barricade in the lane closure taper and also in any shifts in traffic alignment.

Temporary lane closures will not be permitted during inclement weather, nor any other time when, in the opinion of the Engineer, the lane closure will be a greater than normal hazard to traffic.

Temporary lane closures or other restrictions by the Contractor, during work hours and consistent with the time restrictions, will be permitted during those hours and at those locations approved by the Engineer. Requests for temporary lane closures shall be made at least 24 hours before such closures. When a temporary lane closure is used by the Contractor, the closure shall be incidental work and no direct compensation will be made therefore.

Signal and Lighting Systems

The Contractor shall not interfere with the operation of any traffic signal system, except as required by the Contract. The Contractor shall notify the Engineer at least 48 hours before beginning any work that will interfere with any traffic signal system or its detectors.

During periods when an existing signal system is de-energized and the new signal system is energized (or existing system is re-energized), the Contractor shall furnish, erect, and maintain "Stop Ahead" signs and "Stop" signs. The quantity and size of the temporary signs as well as their placement in the field shall be as directed by the Engineer. The Contractor shall furnish and install materials to keep these signs upright and stationary. The signs shall remain the property of the Contractor.

The Contractor shall maintain street lighting by means of the in-place lights, the newly constructed lights, or a combination thereof, except as otherwise authorized in writing by the Engineer.

9. PROTECTION & RESTORATION OF PROPERTY AND LANDSCAPE (1712)

The Contractor shall shore up, brace, underpin, secure and protect, as many as necessary, all foundations and other parts of in-place structures adjacent to, adjoining, and in the vicinity of the Project, which may be in any way affected by the excavations or other operations connected with the construction of the improvements required under this Contract. The Contractor shall indemnify and hold harmless the Port Authority, City and its Engineer from any damages for which Port Authority, City and/or its Engineer may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.

Street patches shall meet the requirements of the trench excavation and backfill/surface restoration outline in Section 9 of this Specification. Restoration of sodded and seeded areas shall be in compliance with this specification. Where included as a pay item in the Plans or Specifications, payment for replacing curb and gutter shall be included in the Lump Sum Base Bid Total or approved Alternate Bid item.

10. AIR, LAND AND WATER POLLUTION (1717)

Pollution of natural resources of air, land and water by operations under this Contract shall be prevented, controlled, and abated in accordance with the rules, regulations, and standards adopted and established by the Minnesota Pollution Control Agency (MPCA), and in accordance with the provisions of Mn/DOT 1717, 1803.5 and the following:

By signing the NPDES Declaration and completing the electronic online NPDES CSW permit, the Contractor is a co-permittee with the Port to ensure compliance with the terms and conditions of the Construction General Storm Water Permit (MN R100001) and is responsible for those portions of the permit where the operator is referenced. This permit establishes conditions for discharging

storm water to waters of the State from construction activities that disturb 1 acre (0.4 hectares) or more of total land area. A copy of the permit is available at <http://www.pca.state.mn.us/water/stormwater/stormwater-c.html> or by calling 651-296-3890.

The Contractor shall apply and pay for the NPDES Construction Stormwater General Permit on this Project unless otherwise stated in the Special Provisions. Payment for the application shall be incidental to the Contract. The Port Authority or City will provide the Contractor with the information needed for Sections 1 thru 3 and 5 thru 14 of the application form, as part of the Contract document package. The Contractor shall complete the application process, and post the Permit and MPCA's letter of coverage onsite.

A copy of the MPCA confirmation and a signed Permit Declaration form must be returned with the Contract and Bond. Submittal of the copy of the Confirmation and Permit Declaration is mandatory for Contract approval. No work which disturbs soil and/or work in waters of the state will be allowed on this Project until the NPDES Permit is in effect and the Port has received the required documentation.

The Contractor shall be solely responsible for complying with the requirements of the NPDES Construction Stormwater General Permit where Contractor is referenced in Part II.B and Part IV of the NPDES Construction Stormwater General Permit.

The Contractor shall be responsible for providing all inspections, documentation, record keeping, maintenance, remedial actions, repairs required by the permit. All inspections, maintenance, and records required in the NPDES Construction Stormwater General Permit Part IV.E, Inspections and Maintenance shall be the sole responsibility of the Contractor. The word "Permittee" in these referenced paragraphs shall mean "Contractor". Standard forms for logging all required inspection and maintenance activities shall be used by the Contractor. All inspection and maintenance forms used on this Project shall be turned over to the Engineer every week for retention in accordance with the Permit.

The Contractor shall have all logs, documentation, inspection reports on site for Engineer's review and shall post the permit and MPCA's letter of coverage on site. The Contractor shall immediately rectify any shortcomings noted by the Engineer. All meetings with the MPCA, Watershed District, WMO, or any local authority shall be attended by both the Engineer and the Contractor or their representatives. No work required by said entities, and for which the Contractor would request additional compensation, shall be started without approval from the Engineer. No work required by said entities and for which the changes will impact the design or requirements of the Contract documents or impact traffic shall be started without approval from the Engineer.

The Contractor shall immediately notify the Engineer of any site visits by Local Permitting Authorities performed in accordance with Part V.H.

If the Contractor does not perform the requirements as listed, the Engineer will issue a Work Order detailing the required action. The Contractor shall start the required action within twenty-four (24) hours of receipt of the Work Order and continue the required action until the Project is brought into compliance with the permit. Failure to perform the required action as specified, shall subject the Contractor to a \$1000/calendar day deduction.

The Contractor shall review and abide by the instructions contained in the permit package. The Contractor shall hold the Port Authority and City harmless for any fines or sanctions caused by the

Contractor's actions or inactions regarding compliance with the permit or erosion control provisions of the Contract Documents.

Emergency Best Management Practices must be enacted to help minimize turbidity of surface waters and relieve runoff from extreme weather events. It is required to notify the MPCA Regional Contact Person within two (2) days of an uncontrolled storm water release. The names and phone numbers of the MPCA Regional Contact personnel can be found at:

<http://www.pca.state.mn.us/water/stormwater/stormwater-c.html>. The Contractor is reminded that during emergency situations involving uncontrolled storm water releases that the State Duty Officer must be contacted immediately at 1-800-422-0798 or 1-651-649-5451.

The Contractor is advised that Section 1 of the NPDES application form makes reference to a Storm Water Pollution Prevention Plan (SWPPP). This Project's SWPPP is addressed throughout Mn/DOT's Standard Specifications for Construction, as well as this Project's Plan and these Special Provisions. The following table identifies NPDES permit requirements and cross-references where this Contract addresses each requirement.

11. EROSION AND SEDIMENT CONTROL (1717.2) AND STORM WATER MANAGEMENT (2573)

The Contractor shall exercise care to provide erosion and sediment protection on slopes to be disturbed by construction particularly adjacent to ponds, marshes and waterways before construction begins. These areas shall be protected by properly installed silt fence or obtain the Engineer's approval for use of other means. Erosion and sediment control facilities, in place when work is started, shall be properly maintained unless the Engineer approves removal.

The Contractor shall prevent sediment from leaving the disturbed area. Should the Contractor fail in preventing sediment leaving the disturbed area, such sediment that becomes deposited elsewhere in streets, storm sewers, ponds, or marshes downstream shall be removed at the Contractor's expense. All work that may result from the ineffectual maintenance of erosion or sediment control shall be at the Contractor's expense. This may include, but is not limited to storm sewer cleaning, sod replacement, street cleaning, curb and gutter replacement and sedimentation removal.

The Minnesota Erosion Control Association (651-351-0630) updates their reference guide yearly, which includes a list of erosion control suppliers and Contractors. Also, Mn/DOT maintains a list of approved Erosion & Sediment Control products at

<http://www.dot.state.mn.us/products/erosioncontrolandlandscaping/index.html>

The Contractor shall report to the Engineer, in writing, any undesirable conditions: such as sand in manholes or pipes, sedimentation in ponds, faulty erosion & sediment control measures, etc. before commencing work in any area. Once excavation or utility work has started it will be assumed that all damage to erosion & sediment control provisions or sedimentation, except that reported above, has been caused by the Contractor's operations, and it shall be the responsibility or such Contractor to make the necessary repairs.

The Contractor shall exercise particular care to provide effective early erosion protection on slopes disturbed by construction adjacent to ponds, marshes, and waterways. These areas shall be protected.

Once installed, the Contractor shall maintain the erosion & sediment control system and keep the upstream settlement areas clean. The erosion control measures shall be checked and repaired after each rain.

All erosion & sediment control measures shall be installed by the Contractor and checked by the Engineer before any construction activities can start on a site.

If any occurrence of a rain event greater than a 10 year frequency should happen while erosion & sediment control measures are in place, the Port will pay the appropriate bid item (if included in the contract) for the reinstallation if the failure is due to the greater than 10 year rain event. The 10 year rain event will be determined by the City Engineer using the NOAA Atlas 14 Precipitation-Frequency for the Minneapolis/St. Paul International Airport Station (Station ID: 21-5435) Point Precipitation Frequency Estimates. In order for the Contractor to be eligible for the payment, all erosion & sediment control inspection logs and maintenance will need to be in compliance with the SWPPP and this specification. If for any reason the Contractor is not in compliance with the erosion and sediment control measures, the costs of reinstallation due to the rain event will be borne by the Contractor.

Inlet Protection

Storm sewer inlets shall be protected by the various options as detailed in the plans. Options listed are: Sediment Filter Sacks and Metal Basket Type. Other Engineer approved means may be used to prevent the entry of eroded material into the storm sewer system; however, the Contractor must obtain approval for an alternate option and also before installing any erosion control.

Erosion & Sediment Control Inspection Log and Maintenance

During construction, all erosion & sediment control measures and best management practices will be the responsibility of the Contractor, including the inspection and maintenance to meet the requirements of the Storm Water Pollution Prevention Plan (SWPPP). This implementation will be ensured by site inspections performed by the City of Bloomington Engineering Division and will remain in effect until the entire site has undergone final stabilization and a Notice of Termination has been submitted to the MPCA.

Inspections will be performed once every seven days during construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Inspections must include stabilized areas, erosion prevention and sediment control BMPs, and infiltration areas.

All erosion & sediment control devices will require maintenance while they are installed. The Contractor shall routinely check these devices for sediment buildup, vandalism, and general operability. The Contractor is responsible for assuring these devices are operating properly, letting drainage through and trapping sediment, regularly and especially during and after inclement weather. Maintenance, cleaning, sediment removal, and final removal of the erosion & sediment control device are incidental.

The Contractor must maintain and/or replace that portion of the erosion & sediment control program that may be disturbed for construction purposes at no additional compensation.

All entries in the log shall include the date and time of the inspection, corrections or modifications to erosion & sediment control, and be signed by the person making the

inspection and copies of these logs must be submitted to the Engineer each Monday until the entire site has undergone final stabilization and a Notice of Termination has been submitted to the MPCA. No payment for Erosion & Sediment Control will be made until these logs have been received and approved by the Engineer.

Concrete Washout Facility

Temporary concrete washout facilities shall be constructed, maintained, and later removed at the locations shown on the approved Storm Water Pollution Prevention Plan in accordance with these specifications. If no device is shown on the plans, the contractor will be responsible for providing a portable washout system.

The Contractor may choose to either construct a concrete washout facility and line it with a plastic liner, use a proprietary device designed for this application or require that all concrete trucks used for the Project be equipped with on-board washout system.

At least 10 days before start of concrete operations, the Contractor shall submit in writing a *method* statement outlining the design and installation of a concrete washout structure that will contain washout from concrete placement operations or mobile unit procedures. Work on a temporary concrete washout structure shall not begin until written acceptance is provided by the Engineer nor shall any concrete be delivered to the site without this approval.

The structure shall meet the following requirements:

1. Structure shall contain all washout water.
2. Stormwater shall not carry wastes from washout/disposal location.
3. The site shall be signed as "Concrete washout".
4. Each concrete truck driver/pumper operator shall be aware of site locations.
5. The site shall be accessible to appropriate vehicles.
6. The bottom of any excavation shall be at least five (5) feet vertical above groundwater and the excavation must be lined with an impermeable synthetic liner that does not allow washout liquids to enter ground water.
7. Freeboard capacity shall be included into structure design to reasonably ensure the structure will not overtop during or because of a precipitation event.
8. All measures shall be taken to prevent tracking of washout material onto roadway surface.
9. Adding solvents, flocculants, or acid to washwater is prohibited.
10. The structure shall be fenced with orange plastic construction fencing or equivalent fencing material to provide a barrier to construction equipment and to aid in identification of the concrete washout area.

The concrete washout structure shall be completed and ready to use before concrete placement operations.

Waste material from concrete washout operations shall be removed and disposed of in accordance with applicable governmental regulations when it has accumulated to two-thirds of the wet storage capacity of the structure.

If the Contractor chooses to construct a concrete washout structure, the plastic liner shall be single ply, new polyethylene sheeting, at least 0.25-mm {10 mils} thick and shall be free of holes,

punctures, tears or other defects that compromise the impermeability of the material. Plastic liner shall not have seams or overlapping joints.

Temporary concrete washout facilities shall be maintained to provide adequate holding capacity with a minimum freeboard of 300 mm {12 inches}. Maintaining temporary concrete washout facilities shall include removing and disposing of hardened concrete and returning the facilities to a functional condition. Hardened concrete materials shall be removed and disposed of in accordance with government regulations. Holes, rips, and voids in the plastic liner shall be patched and repaired by taping or the plastic liner shall be replaced. Plastic liner shall be replaced when patches or repairs compromise the impermeability of the material as determined by the Engineer.

Temporary concrete washout facility shall be repaired or replaced on the same day when the damage occurs. Damage or wear/deterioration to the temporary concrete washout facility shall be repaired at the Contractor's expense.

When temporary concrete washout facilities are no longer required for the work, as determined by the Engineer, the hardened concrete and liquid residue shall be removed and disposed of in accordance with the applicable governmental regulations. Ground disturbance, including holes and depressions, caused by the installation and removal of the temporary washout facilities shall be backfilled and repaired.

12. CLEARING AND GRUBBING (2101)

Definition

Clearing shall be construed as the complete removal and disposal of all portions of a tree, which exist above ground except stumps. Grubbing shall be construed as the removal and disposal of the portions of a tree, which exist below ground and stumps.

Construction Requirements

Clearing shall be accomplished by removing the tree in a safe and considerate manner. Grubbing shall ordinarily be accomplished by excavation and removal. This includes removing the entire root mass out to at least the drip line of the tree. However, with the permission of the Engineer, grubbing may be accomplished with a grinding device. Inadequate grubbing which results in uneven ground or subsequently tree sprout-ups within one (1) year after grubbing shall be reground, topsoiled and sodded without additional compensation to the Contractor. All roots and stumps shall be removed to a depth of at least 12 inches below the original ground surface or the street excavation, whichever is lower.

Trees shall be felled in a direction and manner as to not cause harm to the adjacent property or City right-of-way. The Engineer reserves the right to modify the tree clearing operations if it is deemed unsafe, hazardous, or if damage is likely to occur.

Tree Pest and Disease Compliance

Current government regulations concerning disposal of trees shall be obeyed. The abutting property owner may claim the cleared trees provided the tree is not diseased. If so, the Contractor shall trim the trees and cut the trunks or logs into 8' lengths and neatly pile them on the private property. When a tree has been cut down, it shall be removed within 24

hours unless it is infected and removal would further the spread of the infestation / disease. Elm and oak tree debris for disposal must be removed from the site between April 1 and September 30. Between October 1 and March 31 the Contractor has until May 1 to remove the debris unless otherwise directed by the Engineer. Ash tree must not be trimmed or debris moved for disposal from the site between May 1 and September 30. Between May 1 and September 30 the contractor may only remove the tree or haul it away with approval from the Engineer. At a minimum this will require chipping the outer 1" of bark in two planes on site prior to movement and may require tarps and other methods to prevent the Emerald Ash Borer from flying off in search of new hosts along the haul route. All other material shall be disposed of as "Removal of Miscellaneous Structures and Excess Materials".

This Project is located in a county that the Minnesota Department of Agriculture has placed under an Emerald Ash Borer Quarantine. Any work for this Project is subject to the following:

The Contractor shall not make ash or any non-coniferous (hardwood) species with bark attached available to the public for use as firewood from the quarantined area. The Contractor shall not transport entire ash trees, limbs, branches, logs, chips, ash lumber with bark, stumps and roots outside of a quarantined county without fulfilling the requirements of an Emerald Ash Borer Compliance Agreement with the Minnesota Department of Agriculture. Contact the Minnesota Department of Agriculture at 1-888-545-6684 or visit the Emerald Ash Borer website at <http://www.mda.state.mn.us/PLANTS/PESTMANAGEMENT/EAB.ASPX> to find out which counties are quarantined.

If the ash material is going to be shipped out of Minnesota, the Contractor shall contact John.o.haanstad@aphis.usda.gov for United States Department of Agriculture joint Emerald Ash Borer Compliance Agreement approval with the Minnesota Department of Agriculture.

The Contractor shall dispose of ash trees in accordance with the Emerald Ash Borer Compliance Agreement.

13. PAVEMENT MARKING REMOVAL (2102)

The provisions of Mn/DOT 2102 are modified and/or supplemented with the following.

1. Site access:

To ensure that no one is accidentally exposed to lead, people are not permitted to areas of high lead concentration without protection. Signs are used to show where unprotected people must not go. The signs shall say:

Warning. Lead Work Area. Poison. No Smoking or Eating.

2. Protective Clothing:

Provide protective clothing for Port Authority and/or City Inspectors in any area with lead exposure above 30 µg/m³ or where the lead concentration is unknown. The clothing can be disposable or reusable. It must include coveralls or equivalent, shoe covers, and head covers. Launder the clothing and provide clean clothing at least weekly or for daily disposal of the clothing. If the contaminated clothing can be reused, the Contractor is responsible for storing it.

3. Wash facilities:

Provide soap, water, and towels to enable Port Authority's and/or City's inspectors to wash at the site. If showers are provided for the Contractor's employees, they must be available for Port Authority's and/or City's Inspectors, too.

Provide a means to remove surface contamination from the Inspector's clothing. That may be a HEPA vacuum, a downdraft booth (with exhaust captured and cleaned), or other effective means that do not increase the concentration of airborne lead.

4. Inspection Delay:

Port Authority's and/or City's Inspectors will not enter a blasting containment area until at least fifteen minutes after blasting and other lead dust-producing activities have stopped, to permit the dust to settle. There will be no extra payment or penalty against the Port for this delay.

The following is hereby added to the end of MnDOT 2102.3

All pavement marking removal shall be done utilizing either waterblasting or sandblasting equipment. Grinder type cutting heads shall not be used for pavement marking removal without permission from the Engineer.

14. EXCAVATION (2105)

Definition

In general, excavation shall be performed in accordance with Mn/DOT Specification 2105.

Excavation shall consist of removing, to the designated subgrade, existing material including soil, gravel, previously constructed surface, trees, shrubbery, and any other material not specifically noted.

The Contractor is encouraged to segregate and recycle bituminous removed during excavation.

Construction Scheduling

Provide access to adjacent properties during construction. These Contractor responsibilities may require that construction be scheduled during periods when the long-range weather forecast is for dry weather. Prepare a schedule that anticipates installation of base and bituminous immediately following the compaction of subgrade.

Suitable Material and Subcuts

Backfill subcuts with Suitable Material. Suitable Material, subject to the Engineer's approval, shall consist of reclaimed bituminous material, bituminous millings and/or "Granular Borrow," as specified in Mn/DOT 3149.2.B, which shall be used to supplement and mix with the existing soils to restore proper grade. Reclaimed bituminous material or millings do not need to be produced from the Project or be from within the City of Bloomington.

Ramp into and out of subcut areas that are not less than 1V:12H slopes. Compact backfill by "quality compaction (visual inspection) methods".

Construction Requirements

Remove all sod and vegetation from the original ground within the construction limits as directed. Suitable topsoil which is encountered during excavation may be stockpiled and used as backfill material behind the curb where required. Provide stockpile locations to the Engineer for approval. No additional compensation will be made for stockpiling material. No stockpiles are allowed in the right-of-way or on Port Authority or City property unless so approved by the Engineer. Stockpiled topsoil must meet requirements of Article 24 of the Specifications.

Materials suitable for the construction of subgrade and embankments, as determined by the Engineer, shall be placed as provided in these Specifications. Remove materials, which the Engineer considers unsuitable, and replace with material suitable for subgrade and embankments.

Cut slopes and neatly blade and rake. Every effort will be made by the Port to obtain the required easements before initial construction; however, it may be necessary for the Contractor to resume grading operations after easements are obtained. No compensation will be made for this inconvenience; however, the Project completion date(s) may be modified.

Grade private driveways as directed by the Engineer. Before fine grading for curb and gutter, all existing driveways shall be excavated or filled to the proposed subgrade elevation and opened for access at all times. Driveways shall be constructed with material as similar as possible to that existing before start of construction.

During construction, all excavations shall be maintained in such a condition that they will be well drained and properly protected from erosion at all times. Construct temporary ditches or swales when necessary to maintain drainage and avoid damage to the roadway or adjacent property. No excavated material shall be placed or stockpiled in a manner as to restrict free surface drainage of the subgrade, base courses, or adjacent property.

Complete all subgrade and embankments before any excess suitable material from any part of the Project, regardless of haul distance, is wasted. No additional compensation will be made for stockpiling suitable material.

15. DUST CONTROL (2130)

Immediately alleviate the undesirable condition when dust becomes or appears to be becoming a nuisance or problem to the area or nearby residents. The maintenance responsibility described shall be inherent to the Contractor and shall be applicable at all times, including weekends, throughout the construction period. Provide the names and telephone numbers of employees who can be contacted at all times. Make daily inspections of the Project, particularly during and after storms, to maintain flashers and barricades, provide dust control and general maintenance. If the Contractor is negligent in this respect, the Port reserves the right to hire this work to be performed by a separate contractor at acceptable rates to the Port Authority. The cost of such work shall be charged to the Contractor.

Disregard of this provision shall be cause for suspension of the Project until the Contractor can show evidence that employees have been hired specifically to perform the above work and will be available at all times.

At times sweeping and cleaning operations may be needed on a daily basis and other times less frequent needs will exist. The Contractor is hereby advised that for public relation reasons, as well

as others, not all dust control related activities requested by the Engineer may be directly related to this Project. When appropriate, a sweeping and cleaning schedule may be developed to ensure adequate debris removal from the roadways on a prompt basis. The dust control measures may be accomplished by street sweeping, application of calcium chloride or another approved method.

Street Sweeper (with Pickup Broom)

Remove aggregate, leaves, soil sediments from paved portions of the Project, or adjacent roadways, open to the traveling public. Removal shall be accomplished with self-propelled street sweeping equipment. All materials shall be collected and retained within the sweeping equipment as they are swept. Disposal of the swept material shall be in accordance with 2104.3D.

Under no circumstances will brooms be allowed on site that do not have the ability to contain dust and pick up materials that are swept up. Prewetting or the use of a sweeper with a water spray system may be required when the street sweeping creates a nuisance dust condition. Respond to any request by the Engineer for street sweeping within 6 hours.

Provide any necessary flagmen and traffic control (incidental).

Sweeping shall be accomplished as needed, as directed by the Engineer and/or in accordance with any applicable permits obtained for the construction of the Project. Inform the Engineer, or designated representative, of any roadways within or adjacent to the Project that are experiencing aggregate or soil deposits due to the Project construction activities.

The need for roadway sweeping and cleaning is directly related to the construction activities being performed on the Project. At times sweeping and cleaning operations may be needed on a daily basis and other times less frequent needs will exist.

Calcium Chloride Solution

In conjunction with streets under construction, the Port may require that calcium chloride solution be applied on the compacted base for dust control.

Calcium chloride solution shall conform to the requirements of Mn/DOT Specification 3911. Apply based on Mn/DOT Specification 2131. Apply the calcium chloride solution at the rate of 0.50 gallon per square yard.

16. WATER (2130)

Make arrangements with the Utilities Division of the City of Bloomington before using any municipal water. All valves connected to hydrants shall be operated in accordance with furnished instructions.

Use a tank truck with an approved backflow prevention device (air gap). A representative of the City of Bloomington Utility Division will inspect and approve the tank truck as part of processing the construction water permit.

Water for construction purposes and that applies to the work shall be metered with a meter obtained from the Utility Division of the City.

During the period the Contractor has a City of Bloomington hydrant meter checked out, a minimum monthly water charge and a service charge will be billed to the Contractor. The current minimum

billing and the responsibilities of the Contractor for hydrant use is available from the Utilities Division at the City of Bloomington.

The Engineer may exercise authority regarding the amount of water used for any purpose, and the Contractor shall, when directed by the Engineer, use more or less as directed.

All water used for turf establishment shall be considered incidental to the project. Water for dust control, and obtaining optimum moisture for compaction shall be considered incidental to the project.

Construction Water Permits/Hydrant Meters

The following is a clarification of the procedure regulating the use of hydrants in the City of Bloomington:

- A permit is required for use of any City Hydrant.
- The Contractor is responsible for any construction meter fees. Schedule of current construction meter fees is available at 952-563-8777.
- Permits will be for a maximum of ninety (90) days use.
- A monthly bill will be sent and is due upon receipt. Final billing will include an adjustment for total water use.
- Accounts must be kept current or new permits will not be issued.
- User is responsible for the meter and associated equipment including operation of the equipment, damage occurring during its use, and limited maintenance due to the use of the metering equipment.
- User is cautioned against leaving meters or hydrant wrenches on hydrants where they can be damaged or stolen or the hydrant operated by unauthorized persons.
- In operating the hydrant, the hydrant valve shall be completely open or completely closed. An auxiliary valve shall control the flow of water. Valve is included in hydrant meter assembly.

17. CURB AND GUTTER, SIDEWALK AND SIDEWALK RAMPS (2521; 2531)

General

The sidewalk may be curved and/or raised if necessary to save trees or other improvements as determined by the Engineer.

Construct sidewalk ramps where shown on the Plans or as directed by the Engineer. Remove the curb and gutter when required to construct the sidewalk ramp as detailed. Complete each ramp on the existing curb and gutter as soon as possible after curb removal. The sidewalk ramps may be modified by the Engineer to match existing conditions or to avoid obstructions; however the ramp must meet ADA requirements. No additional compensation will be provided for these modifications.

In areas where the existing material beneath the sidewalk is not considered suitable grading material, provide at least 3" of sand beneath the walk.

Saw existing concrete and bituminous driveways at the point where the new work will abut the existing drive.

Do not leave string lines or forms place through driveways at night, or during weekends and holidays or when workers are not present.

Notice of placement of concrete must occur before 2:00 pm on the day before installation to the Project Inspector. The notice must include the plant to be used, the number of yards and the mix design. Placement will not be permitted without this notification. If concrete arrives on site from a different plant than the one provided in the notification it will be rejected.

Material and Construction Requirements

Except when otherwise noted in the Special Provisions, a Mn/DOT Certified plant shall provide all ready-mixed concrete including small loads. All materials and construction requirements shall conform to Mn/DOT Specification and the following paragraphs:

1. Structures

Build the curb and gutter to fit any drainage structures, which may be encountered. Normally final adjustment of structures shall be made at the time forms are set. Construct the transitions from the regular curb and gutter sections as directed by the Engineer. Finish the exposed surface in the same manner as the regular curb and gutter sections. Leave no excess concrete in front of any structures. Pour curb and gutter with full forms on the front; no overpour will be allowed in front of curb and gutter or catchbasins.

2. Joints

Place contraction joints in the sidewalk at five-foot typical intervals and align with like joints in the adjoining or neighboring work. Contraction joints shall be approximately 1/8" in width and shall be cut to a depth of at least 1/3 the structure thickness, but at least 3/4".

In six-inch concrete walk for driveways, place contraction joints so that no slab is larger than 100 square feet in area.

Place expansion joints in curb and gutter and in sidewalk at the beginning and end of all radii, and align with like joints in adjoining work. Place expansion joints against all existing fixed objects.

3. Placing Concrete

Follow the requirements of ACI 305R for hot weather placement shall and follow the requirements of ACI 306R for cold weather placement. Concrete shall not be placed on any foundation whose temperature is 32 degrees or less. During cold weather, concrete may be placed when the air temperature in the shade is 33 degrees F. or more and rising; concrete shall not be placed when the air temperature is below 40 degrees F. and falling. In no case shall concrete be placed upon frozen subgrade. If the concrete has been placed in accordance with the above provisions and the temperature drops to 32 degrees F. or less, cover the concrete with insulating blanket or polyethylene and a sufficient depth of straw to prevent freezing. Protect the concrete from any falling precipitation.

Cure all concrete surfaces poured after October 1st with extreme service membrane or insulation and oil-treated in accordance with Mn/DOT Specifications 2521 and 2531.

Place No. 4 reinforcing bars in the concrete adjacent to manholes, catch basins and at other locations where the concrete is likely to crack, as approved and are incidental to the concrete unit price.

Apply curing compound within one hour after finishing at the approximate rate of one gallon per 150 square feet of surface curing area.

4. Stamped Texture

In areas that require stamped textures, texture the concrete with a “soldier course used brick” design adjacent to the back of the curb and a “running bond used brick” design on the remainder of the width of concrete. Reverse this basic design around planting beds in island areas. Isolate the 4” concrete from the adjacent concrete surfaces with 0.5” expansion material. Space the stamping to create equal joints so that the entire width of the concrete surface is covered with the brick texture. Saw cut contraction joints to a depth of 1” to encourage cracking to follow the textured pattern at ten (10) or five (5) foot intervals to match joints in the adjacent concrete curb or sidewalk. Saw joints at light poles, hand holes, gate valves, and other surface appurtenances.

Use at least three stamping tools for the “running bond” pattern and two stamping tools in the “soldier course” pattern. These tools shall be provided by the Contractor and shall be clean and the design distinct. Approval of the stamping tools, by the Engineer, is required before work begins. Base the pattern on standard brick sizes (2 1/4” x 3 1/4” x 8”) with concave or rodded joints. Make texture samples and submit to the Engineer for approval before any work begins.

Designate an area for a test section of at least 50 square feet to construct and approve by the Engineer. Submit the texture of the design patterns for approval before any test sections are attempted. Give the Engineer 24 hours advanced notice before any test sections are poured so that the method of installation can be approved. The Engineer will inspect the test strip 72 hours after its completion and determine if the stamping patterns are acceptable. If the test strip is unacceptable, the Contractor shall remove the test strip at their own expense and construct a new test strip. If the test strip is acceptable, the test strip can be left in place as part of the work.

Stamping of Sidewalk Ramps will not be permitted.

Apply an approved release agent in accordance with the manufacturer’s specifications before texturing tools are applied to the concrete surface.

While the concrete is still in its plastic state, apply the tool texture pattern to the surface of the concrete. Tools shall be properly tamped into the surface to achieve the surface texture approved by the Engineer.

Around all permanent objects in the special surface treatment area (i.e. street light bases) place 0.5” flexible expansion material and a 4 inch “reveal” tooled to provide an edge for the stamped pattern. Place this tooled “reveal” around openings for signposts and other small openings without the expansion material.

Cut control joints no later than twelve (12) hours after the concrete has been placed. Remove excess release agent at this time.

5. Color

The concrete for mixture with the color agent shall be Mix Number 3Y46 as specified in Mn/DOT Specification 2461. Class B or Class A aggregate must be used.

Two colors are currently in use, a red color and a dark gray color. The red color shall be Colony Red - 413, by Solomon Colors or Prizm Walnut P4140 or Chromix Westwood Brown C-27 or approved equal. The dark gray color shall be L.M. Scofield No. C24 Charcoal or Prizm Gun Metal P9140 Pigments or Bomanite Gunmetal Gray 3B or approved equal. The Engineer shall approve the shade of the color. Show the color on the textured sample submitted for approval. Final approval shall be based on the test section poured and textured at the job site.

Deliver concrete to the site in a revolving drum agitator batch truck properly equipped with a device, which will show and control the number of revolutions at mixing speed.

The driver shall possess a batch ticket indicating the number of bags of Portland cement in the batch. Add color to the mixture at a rate of seven pounds per bag of cement (approximately 4% mixture). Agitate the batch for an additional 50 revolutions but not more than a total of 150 revolutions on any batch (i.e. no batch reading at the job site may have more than 100 revolutions of agitation before color is added).

Place and screed the concrete to grade, then float using standard practice.

Apply an approved color sealant with at least one coat in accordance with manufacturer's specifications.

An area shall be designated by the Contractor and approved by the Engineer for a test section of at least 50 square feet to be constructed. The color must be submitted for approval before any test sections are attempted. The Engineer will inspect the colored test strip 72 hours after its completion and determine if the color is acceptable. If the test strip is unacceptable, the Contractor shall remove the test strip at their own expense and construct a new test strip. If the test strip is acceptable, the test strip can be left in place as part of the work. If a project has a colored stamped textured area, these test sections can be combined into one test area.

6. Sidewalk Ramps

This work consists of constructing sidewalk ramps with truncated dome systems (detectable warning surfaces) in compliance with the American with Disabilities Act Accessibility Guidelines (ADAAG) and Proposed Rights-of-Way Accessibility Guidelines (PROWAG). Conduct this work in accordance with the applicable Port Authority, City of Bloomington, and Mn/DOT Standard Specifications, as detailed in the plan, and the following:

The truncated domes area shall be Neenah R-4984 Detectable Warning Plate, East Jordan Iron Works Truncated Dome Panel or TufTile Detectable Warning Tiles or approved equal in a cast iron natural finish. Bolt the necessary area of the detectable warning plate together or secure per manufacturer's specification to ensure a level seaming between the plates. Place the unit using lifting spring clips and 2x4 lumber or steel bar. Keep concrete off the top surface of the plate at all times. The Contractor may propose use of a different

detectable warning surface provided it is from the approved Mn/DOT product list for truncated dome systems that is available at:
<http://www.dot.state.mn.us/products/detectablewarningsurfaces/detectablewarningsurfaces.html> for approval by the Engineer.

At the time of construction, all truncated dome systems are specified to be in dimensional and alignment compliance with the requirements of the PROWAG as detailed in the plan. Install all truncated dome systems in strict accordance with the recommendations of the manufacturer.

Grout the installation holes if the concrete does not fully contact the warning plate.

The sidewalk ramps may be modified by the Engineer to match existing conditions or to avoid obstructions. No additional compensation will be provided for these modifications.

Truncated dome surface treatment shall be the only tactile warning surface treatment allowed for pedestrian curb ramps and shall be included in the cost per each including the 6" concrete thickness. Concrete curb and gutter modified by and adjacent to the pedestrian curb ramps shall be measured separately under the appropriate curb item.

The entire truncated dome area (2 Ft x 4 Ft typically) shall contrast visually from the adjacent walking surfaces.

The tolerance for elevation differences between tile and adjacent surface is 1/16". At the time of construction, all truncated dome systems are specified to be in dimensional and alignment compliance with the requirements of the ADAAG as detailed in the plan.

7. Backfill

As soon as the concrete (including, but not limited to, curb and gutter and sidewalk) has attained sufficient strength, backfill the area in front and back of the concrete with suitable material. Limit the amount of concrete in place, but not completely backfilled at any time, to 4000 lineal feet. The backfill material behind the concrete must be approved by the Engineer. Where sod or seed is to be installed, place at least four inches of topsoil. The material on the street side of the curb shall be granular material suitable for base construction. Regrade driveways to a usable condition as soon as the concrete has gained sufficient strength.

8. Completion of Curb and Gutter

Complete all sections of curb and gutter including radii and fill-ins at catch basins within three days after the curb and gutter work has been started on a street. Provide temporary erosion control before the concrete work is backfilled if necessary. This erosion control is considered incidental and no additional compensation will be provided. The method must be approved by the Engineer.

18. LANDSCAPING (2571; 2575)

Materials

All plant material shall conform to Mn/DOT Specification 2571. Topsoil shall meet the requirements of Mn/DOT Specification 3877 for Loam Topsoil Borrow. In addition, topsoil shall be pulverized, screened and free of heavy clay, course sand, stones, plants, roots, sticks and other foreign materials.

A test report from an approved reputable testing company is required from the Contractor before delivery of any topsoil and shall include an analysis of soil nutrient levels as specified in Mn/DOT Specification 3877 and recommendations for plant nutrient applications (the University of Minnesota Soils Testing Laboratory provides an excellent nutrient analysis and recommendation). The analysis and recommendations shall include soil gradation and texture, pH percent of organic matter, extractable Phosphorous (P205)(lbs./acre), exchangeable Potassium (K20)(lbs./acre) and soluble salts (Mhos). Imported topsoil not meeting pH requirements will not be accepted.

Apply all fertilizers and till into the 4 inches of topsoil, as required by the test report, in place before sodding. No sod shall be placed on chemically treated soil until sufficient time has elapsed to permit dissipation of all toxic material.

Construction Requirements

Seeding shall meet the requirements of Mn/DOT Specification 2575.3D. Apply the seed at the rate of 75 pounds per acre or as noted.

19. PERMANENT PAVEMENT MARKINGS (2582)

Traffic control for striping operations shall be executed in accordance with the "Field Manual for Temporary Traffic Control Zone Layouts".

Line pavement markings will be measured separately by length of each type placed as specified. Broken lines will be measured by the actual length of line placed and will not include the gap between the skip marks. Crosswalk markings shall be measured by the area of marking furnished and installed as specified.

Place all epoxy pavement markings after at least three (3) calendar days of the completion of the wearing course mixture on each street segment. "Stick and stomp" delineators are required to be installed by the Contractor immediately after installation of the wearing course (once the wear course has cooled to a temperature that allows installation of the "stick and stomp" delineators). Install the delineators at a maximum of 100' spacing, depending on roadway curvature. These delineators and their removal are incidental. The colors of the "stick and stomp" delineators shall match the color of the proposed pavement marking.

Payment shall be compensation in full for all costs incidental thereto including, but not limited to: (1) all costs of preparing the surface, (2) controlling and protecting traffic, (3) laying out the locations of the markings for the approval of the Engineer, and (4) maintaining the work, together with any other expenses incurred in completing the work that is not specifically included for payment under other Contract items. The Engineer shall meet with the Contractor to discuss general guidelines for the layout of the pavement markings. However, it shall be the responsibility

of the Contractor to lay out the specific locations of the markings for the Engineer's approval, as noted in item (3) above.

20. MONUMENTS (3667)

Mutually agreed upon terms for removal and replacement of property and control monuments shall be established before construction. Without these terms in writing, the Contractor shall have full responsibility for the replacement of the monuments by a Land Surveyor licensed in the State of Minnesota.

21. ABANDON WATER SERVICE (2504)

Abandon existing 3/4" or 1" water services by excavating to the main, turning off the corporation stop, cutting the copper service pipe, removing and replacing the corporation flare nut with a copper disc, and pulling the top section of the existing curb stop box. The copper disc shall be A.Y. McDonald 6125 series, Ford "disc" series, or approved equal. All water services to be abandoned will be marked in the field by the City's Utilities Division. There may be locations in the plans where 2 or 3 services are shown serving a property; the Utilities Division will also verify which one is to be abandoned.

Verify with the Engineer the locations of the abandonments before starting any work on the abandonment.

Record the location of each abandoned service, with the help of the Project inspector, and provide that information to the Engineer.

City of Bloomington/Port Authority Contractor Information Sheet

The undersigned agrees, if awarded the Contract, to execute the Contract and undertake the work as stated in these contract documents. The undersigned further agrees to provide the required bonds, insurance and/or guarantees. Accompanying this Proposal is a 5% Bid Security which is subject to forfeiture in event of default by the undersigned. In submitting this bid, it is understood that the Port Authority reserves the right to reject any or all bids, and to award the project based on the proposal the Port Authority determines to be in its best interest, and it is agreed that this bid may not be withdrawn for a period of thirty (30) days from the opening thereof.

Is your firm in compliance with EEO requirements? ☐ Yes ☐ No

Do you have a safety program in place? ☐ Yes ☐ No

Provide your Experience Modification Rate (EMR or MOD) for workers compensation for the past three (3) years.

20____ EMR/MOD: _____

20____ EMR/MOD: _____

20____ EMR/MOD: _____

For a new firm who has not yet established an Experience Modification Rate, please provide the following information:

1. A summary of any and all accidents and OSHA recordable claims that have occurred to date, and
2. Contact information for your current insurance agent.

If a corporation, what is the state of incorporation?

If a partnership, state full names of all co-partners.

Official Address:

Name of Company: _____

By: _____

Title: _____

By: _____

Date: _____

Title: _____

Demolition Permit Application

Office use only

Permit no.

Site address

Date

Tenant/building name

Suite/unit no.

Applicant is

☐ Architect/engineer

☐ Contractor

☐ Owner

Condominium no.

Property owner

Name

Phone

Address

City

State

Zip

Contractor

Name

Address

City

State

Zip

Contact person

Phone

Cell phone

EPA Lead Certification no. (*Residential only*)

License no.

Architect/engineer

Name

Address

City

State

Zip

Phone

Cell phone

Registration no.

Class of work

Check only one.

☐ 1 Entire building

☐ 2 Partial building

☐ 3 Complete tenant space

☐ 4 Partial tenant space

Type of structure

Check only one.

☐ 01 Single family residential

☐ 45 Recreational, amusement

☐ 02 Single family connected to single family

☐ 46 Other non-housekeeping shelter

☐ 03 Residential garage

☐ 65 Industrial buildings

☐ 30 Two family residential

☐ 70 Public works and utilities building

☐ 31 Three - four family residential

☐ 80 Public schools

☐ 32 Multiple - family residential

☐ 81 Private schools

☐ 40 Offices, banks, professional

☐ 85 Churches and religious buildings

☐ 41 Stores, restaurants, warehouse

☐ 88 Hospitals and institutional buildings

☐ 42 Hotels, motels

☐ 93 Other non-residential building

☐ 43 Parking garage

☐ 95 Fences, signs, antennas

☐ 44 Service stations and repair garage

☐ 96 Other non-building structures

Continue to page 2

Project details

Estimated completion date _____ Job valuation \$ _____

Description of work to be done _____

Is this structure being removed to allow for the construction of new structure? ☐ Yes ☐ No

Does proposed work involve the removal of any elevators, escalators or similar mechanisms? ☐ Yes ☐ No

If yes, contact the State of Minnesota Elevator Unit at 651-284-5846. The City of Bloomington may not issue a demolition permit until the state has given approval.

Is there a well(s) onsite? ☐ Yes ☐ No

*All wells must be located and sealed before the **start of demolition**.*

Will there be any changes made to the current plumbing system/fixtures? ☐ Yes ☐ No

Will there be any changes made to the current electrical system/fixtures? ☐ Yes ☐ No

Will there be any changes made to the current HVAC system/fixtures? ☐ Yes ☐ No

Is erosion control required? ☐ Yes ☐ No

If yes, has the City of Bloomington Engineering Division been notified to inspect?

For more information, please call Engineering at 952-563-4870.

☐ Yes ☐ No

Please read and sign

I hereby apply for a demolition permit and I acknowledge that the information above is complete and accurate; that the work will be in conformance with the ordinances and codes of the City of Bloomington and with the Minnesota Building Codes; that I understand this is not a permit but only an application for a permit and work is not to start without a permit; that the work will be in accordance with the approved plan in the case of all work which requires review and approval of plans.

Applicant's printed name

Applicant's signature

Date

Do not write below this line

**Utilities
Division
approval**

Required? ☐ Yes ☐ No

Received? ☐ Yes ☐ No By _____ Date _____

**Engineering
Division
approval**

Required? ☐ Yes ☐ No

Received? ☐ Yes ☐ No By _____ Date _____

**Environmental
Health
approval**

Required? ☐ Yes ☐ No

Received? ☐ Yes ☐ No By _____ Date _____

Inspector no. _____ Case no. _____

Conditions of issuance _____

Permit approved by _____ Date _____

**PORT
AUTHORITY
OF
THE
CITY
OF
BLOOMINGTON
MINNESOTA**

**GENERAL
SPECIFICATIONS**

Revised July 15, 2016

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ATTACHMENTS

- **IC-134 WITHHOLDING AFFIDAVIT FOR CONTRACTORS**
- **CONTRACTOR'S CERTIFICATION**
- **THREE WEEK LOOK AHEAD SCHEDULE**

INSTRUCTIONS TO BIDDERS

PORT AUTHORITY OF THE CITY OF BLOOMINGTON, MINNESOTA

i. DATE OF RECEIVING BIDS

Sealed bids will be received by the Port Authority of the City of Bloomington, Minnesota, up to the date and hour, and at the location as specified in the "Invitation for Bids." Bids received after the time specified shall be returned unopened.

ii. EXAMINATION OF PLANS, SPECIFICATIONS AND SITE

Plans and Specifications are on file in the office of the City Engineer. Additional information may be obtained from that office. Bidders shall use complete sets of Plans, Specifications, Special Provisions and Contract Documents in preparing their bids. The Port Authority of the City of Bloomington assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of these documents. In making copies of these documents available, the Port Authority of the City of Bloomington does not confer a license or grant permission for any other use of the documents other than for the purpose of obtaining bids on the work.

Bidders must familiarize themselves with all ordinances and statutes pertaining to public improvements, and examine and determine for themselves the location and nature of the proposed work, and the amount and character of the labor and materials required therefore, and the difficulties which may be encountered.

iii. DELIVERY OF BID

Bids shall be submitted on the Bid Proposal Form furnished by the Port Authority of the City of Bloomington. The Contractor shall also submit a completed copy of the *City of Bloomington/Port Authority Contractor Information Sheet*. Insufficient, inaccurate, or lack of pertinent information on this sheet may be deemed sufficient cause for disqualification. The bid shall be submitted in a sealed envelope plainly marked as to the Title of Project and date of bid opening.

Each bid must contain the full name or names and post office address of the bidder or bidders, and any person signing any bid as agent of another, or of a firm, must furnish legal evidence of authority to do so.

More than one bid from an individual, firm, partnership or corporation under the same or different names will not be considered. Evidence that any bidder has submitted more than one bid as the prime contractor for the same work will cause rejection of all such bids. Collusion between the bidders will be considered sufficient cause for the rejection of all bids so affected. A party who has quoted prices to a bidder is not thereby disqualified from quoting prices to other bidders, or submitting a direct bid.

Failure on the part of any bidder to carry out previous contracts satisfactorily or bidder's lack of experience or equipment necessary for the satisfactory completion of the project may be deemed sufficient cause for disqualification.

Unless otherwise specifically provided in the specifications for the improvement, bids must be made upon each and every item on the blank Bid Proposal Form.

Telegraphic or e-mailed bids will not be considered. Modifications to bids already submitted will be allowed if received prior to the time specified in the "Invitation for Bids." Modifications shall be submitted as such, and shall not reveal the total amount of either the original or revised bids.

Whenever alternate bids are called for, specifying the use of several different classes of material or types of improvement for the same work, all bidders are requested to submit prices for use of each of the several classes of material or types of improvement as specified. The material to be used or the type of improvement to be adopted will be selected by the Port Authority after the bids have been opened and read.

iv. ADDENDA

Any explanation regarding the meaning or interpretation of contract drawings, specifications, special provisions, or other contract documents must be requested in writing by the bidder and received at least seven (7) days prior to the date for receipt of bids as indicated in the Invitation to Bid. Any explanations or interpretations made by the Port Authority shall be made in the form of addenda to the documents and shall be furnished to all bidders, who shall submit all addenda with their bids. Oral explanations and interpretations made prior to the bid opening shall not be binding.

No substitutions will be considered prior to receipt of the bids unless written request for approval has been received by the City Engineer at least seven (7) days prior to the time of receipt of the bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. The Port Authority's decision of approval or disapproval of a proposed substitution shall be final. If approval of a substitution is made prior to receipt of bids, such approval will be set forth in an addendum.

Addenda will be mailed, either electronically or conventionally, to all who are known by the Port Authority of the City of Bloomington to have received a complete set of the bidding documents, but no addenda will be issued by the the Port Authority of the City of Bloomington, either via electronic or conventional mail later than three (3) days prior to the date for receipt of bids except an addendum withdrawing the request for bids or one which includes a postponement of the date for receipt of bids.

v. CAPITAL AND EQUIPMENT

Bidders must present satisfactory evidence that they are familiar with the class of work specified, and that they have the necessary capital, tools, machinery and other equipment necessary to conduct the work and complete the improvement within the time specified in the Special Provisions in a good and workmanlike manner and to the satisfaction of the City Engineer and the Port Authority Board of the City of Bloomington, Minnesota.

vi. BID GUARANTEE (BID BOND)

Each bid shall be accompanied by a money order, certified check or bid bond payable to the order of the Port Authority of the City of Bloomington in an amount not less than five percent (5%) of the total amount of the bid. No bid will be considered unless accompanied by such deposit.

In case alternate bids are called for, providing for the use of several different classes of materials or types of improvement for the same work, one deposit in the amount of five percent (5%) of the total amount of the highest bid will be sufficient for all bids.

As soon as a contract is awarded, all deposits shall be returned to the bidders, except that of the three lowest bidders, which shall be retained until the contract has been signed and the bonds of the Contractor have been filed, approved, and accepted which shall be within ten (10) days of notice of award of the contract.

If the successful bidder shall fail to enter into such contract in accordance with the accepted bid or shall fail to furnish the required bond within ten (10) days from notice of award, the bidder's deposit shall be forfeited to the Port Authority of the City of Bloomington as liquidated damages.

The next best bid shall be then considered the successful bid, and, at the discretion of the Port Authority Board, the contract may be awarded to the bidder submitting that bid.

vii. NONCOLLUSION STATEMENT

The bidder hereby affirms that he or she is the bidder, a partner of the bidder, or an officer or employee of the bidding corporation with authority to sign on its behalf. The bidder also affirms that the attached bid has been compiled independently and without collusion or agreement or understanding with any other vendor. The bidder also affirms that the content of this bid has not been communicated by the bidder or its agents to any person not an employee or agent of the bidder.

viii. RESPONSIBLE CONTRACTOR

In accordance with Minnesota Statutes §16C.285, Bidders are hereby advised that the Port Authority cannot award a construction contract in excess of \$50,000 unless the contractor is a "responsible contractor" as defined in Minnesota Statutes §16C.285, subdivision 3. A bidder submitting a Proposal for this Project must verify that it meets the minimum criteria specified in Minnesota Statutes §16C.285, subdivision 3, by completing the Responsible Contractor Certificate within this Proposal. Statements in the certificate must be certified by a company officer. Bidders are responsible for obtaining verifications of compliance from all subcontractors, using a form provided by the Port Authority. A bidder shall also submit to the Port Authority, upon request, copies of the signed verifications of compliance from all subcontractors of any tier pursuant to Minnesota Statutes section 16C.285, subdivision 3, clause 7.

A Bidder or subcontractor who does not meet the minimum criteria established in Minnesota Statutes §16C.285, subdivision 3, or who fails to verify compliance with the minimum requirements, will not be a "responsible contractor" and will be ineligible to be awarded the Contract for this Project or to work on this Project. Bidders and subcontractors are also advised that making a false statement verifying compliance with any of the minimum criteria will render the Bidder or subcontractor ineligible to be awarded a construction contract for this Project and may result in the termination of a contract awarded to a Bidder or subcontractor that makes a false statement.

ix. INDEMNIFICATION

The bidder agrees that if the contract is awarded to the bidder, the bidder shall defend, indemnify, and hold harmless the Port Authority, the City of Bloomington and their officials, agents, and employees against any and all claims, liabilities, damages, losses, expenses, or judgments asserted against, imposed upon, or incurred by the Port Authority, the City of Bloomington and their officials, agents and employees that, either directly or indirectly, arise out of or result from the performance of services under the contract, except those claims, liabilities, damages, losses, expenses, or judgments that the bidder can establish arose directly from the negligence or misconduct of the Port Authority.

The bidder also agrees that if the contract is awarded to the bidder, the bidder shall take all reasonable precautions for the safety of all employees on the site and shall provide reasonable protection to prevent damage or loss to the property on the site or properties adjacent thereto and to work, materials, and equipment under the bidder's control.

If the contract is awarded to the bidder, the bidder shall submit a certificate to the Port Authority warranting that the bidder is in full compliance with Minnesota Statutes, Section 176.181 Subd. 2 (Workers' Compensation) and shall submit such insurance, if requested, in the specifications. Certificates of insurance as detailed in the specifications must be submitted to the Port Authority before any work may begin under the contract. All such certificates shall state that the insurance company shall give the Port Authority thirty (30) days' written notice of cancellation, non-renewal, or any material change in the policy.

x. CONSIDERATION OF BIDS

All properly identified bids received on time will be opened publicly and will be read aloud. All bid totals submitted shall be made available to interested parties, immediately following the bid opening.

All bids will be placed in the custody of the City Engineer until the Contract for the Project has been awarded by the Port Authority Board. The City Engineer will check all bids submitted to verify the total bid on each bid proposal and will certify that all bids have been checked and corrected (where errors in extension have been made). The certification will be presented to the Port Authority Board when award of Contract is considered.

After the Port Authority Board approves the ranking by awarding a contract to the lowest responsible bidder, the information in the bids is considered public, with the exception of any trade secret information. If the Port Authority Board rejects all bids, all data other than the public data remains non-public until a rebidding that results in a contract award or a determination by the Port Authority Board to terminate the selection process. An abstract of the bids will be made available to all bidders after the Project is awarded by the Bloomington Port Authority Board.

Once the bids become public information, they will be made available for examination by interested parties. Each interested party is requested to initial each page reviewed, indicating that the bid was examined.

The Port Authority shall have the right to reject any and all bids, reject a bid not accompanied by the required check or security, reject a bid which is in any way incomplete or irregular, and to waive informalities.

Pursuant to the Bloomington City Charter, the Port Authority will award the contract to the lowest responsible bidder, which will be based on factors pertinent to the matter which may include the following:

1. The bidder's adherence to all conditions and requirements of the bid specifications.
2. The total bid price.

Unless otherwise stated in the specifications, the Port Authority reserves the right to award the contract in whole or in part, whichever is in the best interests of the Port Authority.

xi. CONTRACT TERM

The term of the contract shall commence on the date the contract is signed by the Port Authority. The contract expiration date shall be the date stated in the contract or upon completion of all of the terms stated in the contract.

GENERAL SPECIFICATIONS

1. DEFINITIONS

When used in these Specifications and Contract, the following terms (or if pronouns in place of them are used) shall be interpreted as to intent and meaning as follows:

- a) **BIDDER:** Any individual, firm, or corporation submitting a bid proposal for the work.
- b) **CONTRACT:** The agreement covering the performance of the work, and the furnishing of materials for the construction of the Project. The contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The contract documents shall include the Agreement between the Port Authority of the City of Bloomington and the Contractor (hereinafter referred to as the Agreement), the General and Supplemental Specifications and Special Provisions (hereinafter referred to as "Specifications"); the Port Authority of the City of Bloomington Instructions to Bidders; addenda to bidding requirements, if any; Contractor's Bid, Bid Proposal Forms; drawings; plans, addenda issued prior to execution of the Contract; other documents listed in the Agreement and Modifications issued after execution of the Contract; and any other documents listed in the Contract Documents enumerated above. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order or Supplemental Agreement, or (3) a written order for a minor change in the work issued by the Engineer. The contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Engineer and the Contractor, (2) the Port Authority and a Subcontractor or a Sub-subcontractor, or (3) between any persons or entities other than the Port Authority and Contractor. The Engineer shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Engineer's duties.
- c) **CONTRACT BOND:** The approved form furnished by the Contractor and their Surety or Sureties as a guarantee on the part of the Contractor to execute the work in accordance with the terms of the Contract.
- d) **CONTRACTOR:** The individual, firm or corporation with whom the Port Authority contracts.
- e) **ENGINEER:** The duly authorized engineering representative of the City Engineer, who has been delegated responsibility for engineering supervision of the construction.
- f) **FINAL COMPLETION:** When all of the Work has been performed to the requirements of the Contract, except for those items arising from the provisions of warranty, and is so certified.
- g) **FINAL COMPLETION DATE:** The date as specified in the Special Provisions in a completion date contract.
- h) **INSPECTOR:** An authorized representative of the City Engineer, assigned to make any or all necessary inspections of the work performed and the materials furnished by the Contractor.
- i) **INTERIM MILESTONE:** A point in time, or duration, representing the completion of key or important intermediate event(s) in the life of the Project.

- j) **LABORATORY:** The testing laboratory which must be approved by the Engineer to inspect and determine the suitability of materials.
- k) **PLANS:** All approved drawings or reproductions of drawings pertaining to the construction of the work and appurtenances.
- l) **BID:** The written proposal of the Bidder on the form furnished for the work contemplated.
- m) **BID PROPOSAL FORM:** The approved prepared form on which the Bidder submits the bid for the work contemplated.
- n) **BID GUARANTEE:** The security furnished by the Bidder as a guarantee of good faith to enter into a contract with the Port Authority of the City of Bloomington if the work is awarded to that bidder.
- o) **PAYMENT BOND:** A bond furnished in accordance with Minnesota Statutes §574.26 and meeting the terms specified in Minnesota Statutes §574.26 subdivision 2 (2).
- p) **PERFORMANCE BOND:** A bond furnished in accordance with Minnesota Statutes §574.26 and meeting the terms specified in Minnesota Statutes §574.26 subdivision 2 (1).
- q) **PROJECT:** The specific section of the road, surface water, site or the type of work together with all appurtenances and construction to be performed under the Contract.
- r) **SPECIFICATIONS:** The directions, provisions and requirements contained herein, together with all written agreements made or to be made, pertaining to the method and manner of performing the work, or to the quantities and qualities of materials to be furnished under the contract.
- s) **SUBCONTRACTOR:** The individual, firm or corporation undertaking the execution of a part of the work under the terms of the contract by virtue of an agreement between an individual firm or corporation and the Contractor subject to the approval of the Port Authority. It does not include one who furnishes material only.
- t) **SUBSTANTIAL COMPLETION:** When specific aspects of the Work have been completed as defined in the Special Provisions.
- u) **SUBSTANTIAL COMPLETION DATE:** The date as specified in the Special Provisions in a completion date contract.
- v) **SURETY:** The individual or corporate body which is bound with and for the Contractor for the acceptable performance of the Contract and for the Contractor's payment of all obligations pertaining to the work.
- w) **WORK:** The term "Work" means the services or duties required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided by the Contractor to fulfill the Contractor's obligations.

- x) WRITTEN NOTICE: Written Notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered mail to the last known business address.

2. BID PROPOSAL FORM

All bids must be made in ink upon the blank bid proposal form included in the Specifications and should give a unit price for each item, extended totals for the items, and totals as indicated for the work, and must be signed and acknowledged by the bidder, in accordance with the directions in the bid proposal form. In order to insure consideration, the bid proposal form shall be enclosed in a sealed envelope addressed to the Port Authority Administrator and clearly marked as to the time and date of the bid opening and the nature of the Project. The bid shall be delivered to the address contained in the invitation for bids. The legal status of the bidder must be stated in the bid. A corporation bidder must name the state in which its articles of incorporation are held. A partnership must give the full names and addresses of all partners

When a firm submits a bid, the individual names of all its members shall be written out and shall be signed in full; but the signers may, if they choose describe themselves in addition, as doing business under a firm name and style.

In case a corporation submits a bid, the bid must be signed in the name of, and under the seal of, the corporation by a duly authorized officer or agent of the corporation. The corporate address must also be included. Such officer or agent must present legal evidence stating their lawful authority to sign said bid. In the event that any corporation organized and doing business under the laws of a state other than Minnesota is the successful bidder, such corporation shall present evidence that it is authorized to do business in the State of Minnesota before the contract is executed. After bidders have submitted bids, they shall not withdraw or cancel such bid and all sums deposited with such bid may be held by the Port Authority until all bids submitted have been canvassed, a contract awarded and executed, and the required bonds and insurance furnished and approved.

The acceptance of the bid will be a notice in writing signed by a duly authorized representative of the Port Authority of the City of Bloomington. The acceptance of the bid shall bind the successful bidder to execute the Contract within ten (10) days after the award and to be responsible for liquidated damages as provided for execution of Contract and damages for failure to execute. The rights and obligations provided for in the Contract shall become effective upon the parties only with its formal execution by the Port Authority of the City of Bloomington.

The Port Authority reserves the right to reject any or all bids or to accept the bid deemed in the best interest of the Port Authority. Without limiting the generality of the foregoing, any bid which is incomplete, obscure, or irregular may be rejected; any bid having erasures or corrections in the price sheets, which have not been initialed by the contracting officer executing the bid, may be rejected; any bid which omits a bid on any one or more items in the price sheet may be rejected; any bid in which unit prices are obviously unbalanced may be rejected; any bid accompanied by an insufficient or irregular bid bond may be rejected.

3. PLANS AND SPECIFICATIONS

The Plans for this improvement and the Specifications accompanying them shall be considered as a whole, and anything shown or called for in one and omitted in the other is as binding as if called for or shown by both. Figure dimensions shall in all cases be used in preference to scale dimensions. Any work not herein specified which may be fairly implied as included in this improvement shall be done by the Contractor without extra pay. Special provisions and detail plans are intended to modify and shall take precedence over the standard plans, a standard specifications and these general specifications. In case of conflict between plans and specifications, the specifications shall govern.

All work shall be completed in accordance with the Specifications and Plans, and in compliance with the laws of the State of Minnesota and the ordinances of the City of Bloomington so far as applicable.

4. EXAMINATION OF PLANS AND SPECIFICATIONS

Before submitting a bid, all Contractors must carefully examine the plans and specifications and judge for themselves the difficulties which may arise on the site of the work.

After the time set for opening the bids, no bidder may, without the consent of the Port Authority, withdraw their bid or claim extra compensation or damages for any error or omission made by said bidder in preparing the bid.

In the event of discrepancies between the prices quoted in the bid, in unit prices and the extensions thereof, the unit prices shall control. The prices are to include the furnishing of all materials, plants, equipment, tools, and all other facilities and the performing of all labor and services necessary or proper for the completion of the work, except such as may be otherwise expressly provided in the Contract documents.

5. INTERPRETATIONS AND CHANGE ORDERS

No oral interpretation shall be made to any bidder as to the meaning of any of the Contract documents, or to modify any of the provisions of the Contract documents. Every request for an interpretation shall be made in writing and addressed and forwarded to the Engineer. The Port Authority will not be responsible for any other explanation or interpretation of the Plans and Specifications.

If unforeseen conditions require a change in the dimensions of a structure, location of underground pipes, or major variations of a similar nature from the original plans, necessitating exceeding the reasonable limits, as defined in Article 8 of these Specifications, or being of the nature of a substantial departure from the original Plans, such work shall be covered by a change order. The change order is to set forth in complete detail the nature of the change and reasons therefore. The compensation to be paid the Contractor and whether it is an addition or a reduction with respect to the original contract costs is to be covered in detail. Should additional or supplemental drawings be required, they will be furnished by the Engineer.

6. **MATERIALS**

All materials shall be new unless recyclable materials are practicable and appropriate. Both the workmanship and material shall be of good quality. The Port Authority of the City of Bloomington requires that any contractor or subcontractor that bids any materials for any part or parts of the Project, MUST include in the bid, products or construction items made with recycled materials, whenever and wherever possible, practical and appropriate, so long as those materials meet all performance requirements; state and local codes; will not compromise the quality, health and safety, or the operation and integrity of the Project.

If both recycled and non-recycled product is bid, the Port Authority may, after comparing quality, performance and cost, give preferential consideration to materials with recycled content or non-recycled content. If recycled product is to be bid, it shall be brought to the Engineer prior to the bidding for approval.

The source of supply of materials to be used shall be approved by the Engineer before delivery is started. The approval of the source of any material will stand only as long as the material itself conforms to the specifications.

Only materials conforming to the requirements of these specifications shall be used in the work. The source of the material shall not be changed at any time without written approval of the Engineer. The Contractor may be required at any time to furnish a complete statement of the origin, composition and manufacturer of any or all material required in the work, or to submit samples of the same.

Materials shall be stored so as to insure the preservation of their quality and fitness for the work and such materials, even though approved before storage, shall be subject to test and must meet requirements of these Specifications at the time it is proposed to use them in the work. Materials shall be stored in a manner that will facilitate inspection.

All materials, supplies, and articles furnished shall, whenever so specified and otherwise wherever practicable, be the stock products of recognized reputable manufacturers.

From the commencement of the work until the completion of the same, the Contractor shall be solely responsible for the care of the work covered by this Contract and for the materials delivered at the site intended to be used in the work and all injury or damage to the same from whatever the cause, shall be made good at the Contractor's expense before the final estimate is made. The Contractor shall provide suitable means of protection for and shall protect all materials intended to be used in the work. The Contractor shall take all necessary precautions to prevent injury or damage to the work in progress of construction by flood, freezing or from inclemencies of the weather at any and all times and only approved methods shall be used for this purpose.

All materials not conforming to the requirements of these specifications shall be considered as defective and all such materials, whether in place or not, will be rejected and shall be removed immediately within two working days from the Project site, unless otherwise permitted. No material which has been rejected - the defects on which have been corrected or removed - shall be used until approval has been given.

The Contractor shall replace and re-execute their own work in accordance with the Contract Documents without expense to the Port Authority and shall bear the expense of making good all work of other Contractors destroyed or damaged by such removal or replacement.

If the Contractor does not remove such condemned work and material within a reasonable time fixed by written notice, the Port Authority may remove them and may store the materials at the expense of the Contractor. If the Contractor does not pay the expense of such removal within ten days thereafter, the Port Authority may, upon ten days written notice, sell such material at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs and expenses that should have been borne by the Contractor.

When tests of materials are necessary, such tests shall be made at the expense of the Port Authority unless otherwise provided. The Contractor shall afford such facilities as the Engineer may require for collecting and forwarding samples, and shall not use the materials represented by the samples until tests have been made and the materials have been found to satisfy the requirements of these specifications. The Contractor in all cases shall furnish the required samples without charge. Retesting of materials that fail the first test shall be at the Contractor's expense.

If the Contractor does not deliver materials or timelines do not allow advanced testing, so that the testing can occur prior to the installation, the Contractor shall be responsible to replace any defective material at their own expense that was incorporated into the work.

7. FORCE ACCOUNT WORK

If the Engineer orders, in writing, the performance of any work not covered by the Plans or included in the Specifications, and for which no item in the Contract is provided, and for which no unit price or lump sum basis can be agreed upon, then such extra work shall be done as stipulated under section 1904 of Mn/DOT's Standard Specifications for Construction.

The Contractor is required to submit force account work itemized statements of costs above in accordance with Mn/DOT 1904 to the Engineer on Mn/DOT form TP-21659 (Summary of Daily Force Account). Copies of this form can be obtained from the Engineer.

The following sentence shall be added to the second paragraph of Mn/DOT 1904:

"Under no circumstance will the negotiated unit price for Extra Work which is performed by a subcontractor include a Prime Contractor allowance which exceeds that provided for in 1904(4), Paragraph 3."

The monthly pay estimates shall include all agreed upon charges for Force Account Work done the previous month.

Claims for work not ordered in writing by the Engineer will not be allowed.

8. ESTIMATE OF QUANTITIES

The schedule of quantities, although stated with as much accuracy as is possible in advance, is approximate only and is assumed solely for the purpose of comparing bids. The quantities on which payments will be made to the Contractor are to be determined by measurements of the work actually performed by the Contractor as specified in said contract.

The Port Authority reserves the right to increase or decrease, within reasonable limits, any of the quantities shown. The term "reasonable limits" shall mean a twenty-five (25) percent increase or decrease in the quantities on any one contract item. In the event the actual quantities differ more than the reasonable limits an equitable revision of the unit price shall be made when requested by either the Port Authority or the Contractor. This twenty-five (25) percent limit does not apply to items specifically excluded or listed as optional by the Port Authority, nor to minor contract items. The request shall be made in writing and shall be accompanied by evidence supporting the claim.

A. Under-run Quantity

If the final quantity of any Contract item is less than 75 percent of the quantity in the bid schedule, the basis of payment for that Item may be revised to the extent that the evidence justifies an increase in the fixed expenses chargeable to that Item. In no case will costs incurred prior to the award of the Contract, nor loss of profits be considered as part of these fixed costs. The total payment for the decreased quantity will not exceed that which would be made for 75 percent of the quantity in the bid schedule at the Contract price.

B. Over-run Quantity

If it is found that the final quantity of any Contract item will be more than 125 percent of the quantity in the bid schedule, a revised basis of payment may be agreed upon for the quantity in excess of the 125 percent that is performed. If a revised unit price or lump sum adjustment cannot be agreed upon, the Contractor shall enter into an agreement with the Port Authority to perform the remaining work on a Force Account basis as provided in Article 7.

9. OTHER CONTRACTS

The Port Authority may award other Contracts for additional work and the Contractor shall cooperate fully with such other Contractors and adjust his/her work to that provided under other contracts as may be directed by the Engineer or City Engineer.

10. SCHEDULING AND CONSTRUCTION PROGRESS

A. General

For purposes of the Work under the Contract, the Contractor shall prepare and submit a Project Schedule ("Project Schedule") and Weekly Look Ahead Schedules ("WLA Schedules"), as further provided herein. The intent of the scheduling requirements is to provide a quantitative measure for performance and actual progress throughout the life cycle of the Project.

The Project Schedule and the WLA Schedules (hereinafter collectively referred to as the "Schedules") to be submitted shall represent a practical plan to complete the Work by the Final Completion Date or within the permitted Working Days, whichever is applicable under the Contract, and shall convey the Contractor's intent in the manner of prosecution and progress of the Work. The scheduling and execution of the Work in accordance with the Contract Documents are the responsibility of the Contractor. The Contractor shall involve and coordinate all Subcontractors and material Suppliers in the development and updating of the Schedules. The submittal of the Schedules shall be understood to be the Contractor's representation that

the Schedules meet the requirements of the Contract Documents and that the Work will be executed in the sequence and duration indicated in the Schedules.

B. Project Schedule ("Project Schedule")

1. Project Schedule Format and Content

- a. The Project Schedule shall be electronically produced in the Critical Path Method (CPM) format, utilizing project scheduling software such as Primavera, Microsoft Project, SureTrak, Timeline or other equivalent software as approved by the Engineer.
- b. The Project Schedule shall be submitted in a time-scaled bar-chart (Gantt) format with logic lines shown on sheets no smaller than 11 inches wide by 17 inches long, nor larger than 22 inches by 34 inches long. An activity report in a tabular form showing the following information shall be submitted with bar-chart: activity ID, description, duration, early start, early finish, late state, late finish, predecessors, successors, constraints, percent complete, remaining duration and any other factors necessary such as those used to convert calendar days to Working Days for a Working Day contract.
- c. The Project Schedule shall show Work tasks, percentage completed, progress bars, the phasing, staging, and sequencing of Work activities, Substantial and Final Completion, any Interim Milestones, start and finish dates, and other breakdowns are required by the Engineer.
- d. Descriptions of scheduled activities shall include sufficient detail to identify the Work that is to be accomplished. Activity durations shall be expressed in whole days. Work that is to be performed by Subcontractors or other contractors or agencies shall be clearly defined.
- e. The Project Schedule shall meet any Interim Milestone dates or Substantial and Final Completion Dates that may be required by the Special Provisions and shall not extend beyond the contract completion time.
- f. The Project Schedule shall accommodate and consider seasonal restrictions (asphalt availability, planting dates, etc.), concrete curing/calendar days, acquisition of permits, lengthy lead-time orders for material and equipment, any project specifics as required by the Engineer, and weather conditions.
- g. All schedule submittals shall include three copies minimum.
- h. The first Project Schedule submitted by the Contractor will be reviewed for format, as well as content. The Engineer may require format changes. Once the format has been approved, all subsequent Project Schedules shall be submitted in the approved format.

2. Submission and Updating of Project Schedules

- a. The Contractor shall submit a preliminary, written Project Schedule at the Pre-construction Conference. The Contractor shall submit a final Project Schedule incorporating all comments one calendar week after the Pre-construction Conference.
- b. The Project Schedule must be received and approved by the Engineer prior to the initiation of any work by the Contractor. If the Project Schedule has not been received by the Engineer by the 8th calendar day after the Notice of Contract Approval, Working Days will be assessed and work will not be permitted.
- c. The Project Schedule shall be updated by the Contractor as required by the Engineer.

C. Weekly Look Ahead Schedule ("WLA Schedule")

- a. The Project Schedule shall be supplemented on a weekly basis by the submission of a WLA Schedule. WLA Schedules shall be submitted by the Contractor at the end of each week, or at such other time of the week as determined by the Engineer.
- b. The WLA Schedule shall include those Work activities that are scheduled to begin or are in progress for the next three weeks and shall be submitted on the form attached in the Appendix.
- c. Progress Payments may be withheld if the WLA Schedule is not received. Receipt of a progress payment does not relieve the Contractor of the responsibility to provide the WLA Schedule.

D. Construction Progress

Once work has started on a project area (street, surface water body or other project type), it must be diligently pursued until the Work is finished. Each successive phase of work will follow the preceding phase as closely as possible so that the time any one area is under construction is kept to a minimum.

Should the Contractor, in the Engineer's opinion, fail to complete the work as specified above, the Engineer may limit the work which has been started but not completed to any such amount as deemed reasonable by the Engineer. No extensions of time will be granted to the Contractor for not being permitted to open new areas to construction for this reason.

11. DELAYS AND EXTENSION OF TIME

A. General

The Contractor herewith specifically waives claims for damages for any hindrance, delay, or acceleration (except for accelerations described in Paragraph 11(D)(1), below). In lieu of such claims, the Contractor will be granted reasonable extensions of time for "excusable delays", as determined by the Engineer, and the Port Authority will not claim liquidated damages for the periods of such extensions.

B. Excusable/Non-excusable Delays

"Excusable Delays" are delays from occurrences that materially delay the progress of the Contractor on the Work, and that are not the result of the Contractor's own actions or inaction or that are not within the Contractor's control. Delays that result from the following non-inclusive list of occurrences are not considered Excusable Delays and will be considered "Non-excusable Delays":

- Incorrect assumptions or estimates made by the Contractor in the preparation of its bid (e.g. the underestimation by the Contractor of its production rates)
- Delays in the Contractor's submission of Contract documents, insurance and bonding documents, Schedules, and other submissions required of the Contractor
- Deficient scheduling or project management
- Inadequate or ill-timed provision of staffing, machinery or materials
- Construction mistakes and/or the correction of incorrect Work
- Equipment problems

- Failure of the Contractor to reasonably prevent and minimize drainage impacts on exposed soils
- The limitation of certain Work by the Engineer pursuant to the Contract (for example, pursuant to the ability of the Engineer under Section 2 Scheduling And Construction Progress of the Port Authority of the City of Bloomington Standards Specifications for Construction to limit the opening of new streets until streets currently opened have been satisfactorily completed)
- Failure to prosecute and complete the work per the Schedules
- Failure to follow the plans, specifications, or other provisions of the Contract
- Review and approval/rejection of shop drawings, samples and product data.
- Subcontractor scheduling problems
- Shutdowns due to improper Work, or otherwise due to the Contractor's operation
- The Contractor's own procedures, timing, and method of conducting the Work, or other actions or inaction that cause or contribute to delays in the prosecution of the Work.

C. Extensions of Time

1. Extensions to be Granted for Excusable Delay

Upon the determination of the Engineer that an Excusable Delay has occurred, the Engineer shall grant an appropriate extension of time to the Substantial Completion Date, to the Final Completion Date, to Interim Milestones, or to the number of Working Days, as applicable. The extension shall be for a period as the Engineer shall determine to be reasonable under the circumstances.

2. Process for Obtaining Extensions

- a. If the Contractor believes that it may have encountered, or may be encountering, an event of Excusable Delay, or an event that may require it to accelerate construction, the Contractor shall notify the Port Authority within 48 hours of such event.
- b. If the Contractor desires an extension of time for the event of delay/acceleration, the Contractor shall submit a written request for time extension within seven (7) calendar days of the delay/acceleration event. Oral requests for or notifications of a requested extension are not acceptable and will not be considered. The request for time extension shall contain justification for the need for such extension so that the Engineer can determine whether an extension of time under the provisions of the Contract is reasonable, justified, and necessary.
- c. After receipt of such justification and supporting evidence, the Engineer will review the facts and advise the Contractor, in writing, of the granting or denial of the requested extension.
- d. If the Contractor fails to provide the notices and requests required herein within the indicated timeframes, the Contractor shall not be entitled to an extension of time, nor shall any claim for delay or acceleration based on the associated event be valid.

3. Non-Availability of Extensions for Certain Delays and Length of Certain Extensions

- a. Delays in activities that do not impact the critical path of the Work, as shown on the Schedules, will not be the basis for an extension.
- b. The granting of an extension for an Interim Milestone shall not be the basis of an extension to the Substantial Completion Date, the Completion Date, Working Days, or other Interim Milestones, unless the Engineer determines that such additional extensions are appropriately related and necessary.
- c. In some instances, the quantity of a particular type of Work required in the Project may significantly exceed the original estimated quantity provided by the Engineer for the bidding process. A quantity “significantly exceeds” the original estimated quantity when it exceeds the “reasonable limits” threshold defined in of Article 8 Estimate of Quantities of these General Specifications. If the volume of work meets criteria outlined, the Engineer may grant an extension if requested in writing by the Contractor. In such cases, if the volume of specified Work either for the overall Contract or per item, measured in dollars, is increased over the total value or individual item value shown in the Contractor's bid at the time of award of Contract is made, the Contractor will be granted an extension proportionately equal to the increase in total value as calculated using the process outlined in the MnDOT Contract Administration Manual Section 5-591.340.
- d. A delay caused to the Contractor by any suit or other legal action against the Port Authority will entitle the Contractor to an equivalent extension of time for the affected work, unless the period of such delay exceeds ninety (90) days. When such period is exceeded the Port Authority will, upon request by the Contractor in writing, either terminate the Contract, in part or total, or grant a further extension of time, whichever may at that time appear most desirable to both parties

D. Delay/Acceleration Claims; Attorney's Fees

- 1. Accelerations Not Involving Delay. There may be circumstances, not involving any events of actual delay, under which the Port Authority desires to accelerate the completion of the Work to dates that are earlier than those originally outlined in the Contract. In such cases, the Port Authority will notify the Contractor in writing of the need to accelerate the Work. Additional compensation for any such Port Authority directed acceleration would be negotiated by the parties and handled through a Work Order or Change Order.
- 2. Voluntary Accelerations. Compensation will not be provided for voluntary acceleration by the Contractor or the inability of the Contractor to voluntarily accelerate the Work.
- 3. No Oral Agreements to Accelerate or for Extensions of Time. All requests and approvals of extensions of time for claimed delays shall be in writing as provided herein; requests and extensions not in writing shall not be valid. Additionally, oral agreements between the Port Authority and the Contractor with respect to acceleration shall be of no effect.
- 4. Attorney's Fees. The Contractor will be responsible for payment of the Port Authority's Attorney's fees if the Contractor initiates a lawsuit for a delay or acceleration claim and the claim is not sustained.

12. FAILURE TO COMPLETE WORK ON TIME

Should the Contractor fail to complete the work on or before the original date set forth for completion in the Contract, or on or before the corrected date as granted by extensions of time for completion, the Port Authority may permit the Contractor to proceed and in such case there shall be deducted from any monies due (or that may become due the Contractor) a sum as specified in the Special Provisions for each and every calendar day, exclusive of Sundays and City Holidays, that the work shall remain uncompleted. This sum shall be considered and treated, not as a penalty but as the cost of field and office engineering, inspection and liquidated damages.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time of completion may have been extended, shall in no way operate as a waiver on the part of the Port Authority of any of its rights under the Contract.

Neither by the taking over of the work by the Port Authority nor by the termination of the Contract, shall the Port Authority forfeit the right to recover liquidated damages from the Contractor or surety thereof for failure to complete the Contract.

If the Contractor should neglect to prosecute the work properly, or fail to perform any provisions of the Contract; the Port Authority, after three days written notice to the Contractor, may without prejudice to any other remedy the Port Authority may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor, provided, however, that the Engineer shall approve both such action, and the amount charged to the Contractor.

13. ABANDONMENT OF THE WORK

If the Contractor abandons the work for any cause other than failures of the Port Authority to make monthly progress payments or refuses to comply with the provisions of the Plans and Specifications, the Port Authority has the right to notify the Contractor's surety to complete the work in accordance with the aforesaid Plans and Specifications. In the event no liens or claims have been filed and the Port Authority fails to make progress payments, the Contractor has the option, of ceasing operations until payments are resumed by notifying the Port Authority of such intentions to cease operations for this cause.

Should the Contractor abandon the work, fail or refuse to complete the work embraced in this contract, or fail to pay just claims for labor and materials, the Port Authority reserves the right to charge against the Contractor all extra legal, engineering or other costs caused by such abandonment, failure or refusal. The legal costs will also include the Port Authority's cost of prosecuting or defending any suits in connection with such abandonment, failure or refusal and nonpayment of claims wherein the Port Authority is made co-defendant and the Contractor agrees to pay all costs, including reasonable attorney fees.

14. MONTHLY ESTIMATES

Estimates will be prepared by the Engineer on or about the fifth day of the month for all work completed to the end of the preceding month. Progress payments will be made on or before the 15th day of the month in cash or equivalent. In making such partial payments, subject to the

exceptions hereinafter described, the Port Authority will retain five per cent of the total amount earned as indicated in said partial estimate until the Project is substantially completed. The retainages and payments are to be in accordance with S.F. 1665 Chapter No. 464 amending Minnesota Statutes 1978 Sections 161.322; 162.04; 162.10; and M.S.A. SECTION 429.041 Subd. 6.

Progress payments will be prepared as accurately as the available information will permit but the only estimate that is binding will be the semi-final estimate. Before the semi-final estimate is prepared all quantities will be reviewed and rechecked; by signing the semi-final estimate, the Port Authority and Contractor agree on quantities and contract changes.

Monthly estimates may include the value of acceptable materials required in the construction, which have been physically delivered to the site of the work or to a City-owned storage (materials on hand), and for which acceptable provisions have been made for preservation and storage. Invoices for these materials must be submitted prior to inclusion in an estimate. No payment for materials on hand shall be made for materials held at Contractor facility, regardless of the type of work, unless specifically authorized in the Special Provisions. Such material when so paid for by the Port Authority shall become the property of the Port Authority, and in the event of the default on the part of the Contractor, the Port Authority may use or cause to be used such materials in construction of the work provided for in the Contract. The amount paid by the Port Authority for materials on hand shall reduce as the material is used in the work.

If no claims or liens have been filed, and lien waivers from the Contractor and all subcontractors and material suppliers have been provided, the retainage will be paid within 90 days after the final estimate. Should any liens or claims be filed, an amount at least equal to the amount of the lien, or claim, will be held until a satisfactory agreement is reached between the Port Authority, the Contractor, and the Contractor's surety.

The Port Authority may withhold from payment to the Contractor on any estimate, in addition to retained percentages, such an amount or amounts as may be necessary to cover:

- (a) Defective work not remedied and work not completed.
- (b) Claims for labor or materials furnished the Contractor or subcontractor, or reasonable evidence indicating probable filing of such claims.
- (c) Failure of the Contractor to make payments properly to subcontractors or for material or labor furnished by others.
- (d) A reasonable doubt that the Contract can be completed for the balance yet unpaid.
- (e) Evidence of damage to another Contractor or private property.

The Port Authority may disburse and shall have the right to act as agent for the Contractor in disbursing such funds as have been withheld pursuant to this paragraph to the party or parties who are entitled to payment there from but the Port Authority assumes no obligation to make such disbursement. The Port Authority will render to the Contractor a proper accounting of all such funds disbursed.

Before the Port Authority will make payment on the final estimate, the Contractor shall file with the Port Authority Administrator a notarized certificate to the effect that all labor, material, and other costs have been paid in full and a notarized statement to the effect that all Minnesota State Withholding taxes have been paid. Standard forms for these two statements are shown at the end of the General Specifications. The Contractor is also advised that the Port Authority will accept the IC-134 form that is completed on line. The internet address for the link is <http://www.taxes.state.mn.us/taxes/withholding/>. It will be necessary for the contractor to put in tax id and social security # to use the form.

15. CONTRACTOR, ENGINEER, INSPECTOR RELATIONSHIPS

The Contractor will be responsible for planning the construction means, controls, techniques, sequences, schedules, procedures, construction safety and materials; however, these factors shall be done in coordination and cooperation with the Engineer. All phases of the Project shall proceed in accordance with OSHA safety requirements. The presence of the City Engineer or Project Engineer, or authorized representative thereof, on the job site shall not release the Contractor of this responsibility or hold the Contractor harmless for the quality of workmanship or defects in materials. The Engineer shall have the authority to decide questions, which arise about quality and acceptability of materials furnished and work performed.

16. CONTRACTOR'S RESPONSIBILITIES

The Contractor shall furnish all necessary machinery, tools, labor and material required, and shall fully complete the work in accordance with the plans, specifications and detail drawings for the price bid. The entire work to be performed under the Contract for this improvement is at the Contractor's risk, and they assume the responsibility for all damages to the work or to contiguous property. The Contractor shall have charge of and be responsible for the entire improvement until its completion and acceptance. It shall be the Contractor's responsibility to maintain all stages of work in a safe and suitable condition at all times, including nights, weekends, and holidays. The Contractor shall make observations of the work during such periods as are necessary to insure proper care of the work. The Contractor shall be liable for any defects, which may appear, or be discovered on the work prior to the termination of the guarantee period.

The Contractor shall designate one person who will be in charge of the Project and to whom the Inspector or Engineer shall give guidance as to the intent of the plans and specifications. If any person employed on the work shall refuse or neglect to obey the directions of the City Engineer, or duly authorized representative thereof, in anything relating to the work, or shall appear to be incompetent, disorderly or unfaithful, employee shall, upon the request of the City Engineer, not be employed on any part of the remaining work in the City.

Precaution shall be exercised at all times for the protection of persons (including employees) and property. The safety provisions of applicable laws and building and construction codes shall be observed. Machinery, equipment, and all hazards shall be guarded in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable laws.

17. DAMAGE TO EXISTING IMPROVEMENTS

Any damage done to existing improvements during the progress of this improvement shall be repaired by the Contractor under the direction of the Engineer. Such repairs shall be made according to the requirements of the Standard Specifications of the Port Authority of the City of Bloomington for various types of improvements or classes of work required.

The Contractor shall be entirely responsible for the protection of all improvements that are not designated by the Engineer to be removed for proper construction of the Project.

18. RESPONSIBILITY FOR DAMAGE CLAIMS

The Contractor shall indemnify, defend and hold harmless the Port Authority and the City of Bloomington, their officers, agents and employees from all suits, actions, and claims of any character brought because of injuries or damages received or sustained by any person, persons, or property on account of the operations of the said Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims arising or amounts recovered from infringements of patent, trademark, or copyright; or because of any claims arising or amounts recovered under the Workers Compensation Act; or under any other law, ordinance, order, or decree.

Removal of Liens

Any liens filed on the Project which are not promptly removed constitute a default. To remove a lien the Contractor is required to post a bond, deposit money, or meet any other statutory requirement.

Partial Occupation by Owner

Whenever it may be useful or necessary, the Port Authority shall be permitted to occupy and use any portion of the work which has been either partially or fully completed by Contractor before final inspection and acceptance there by Port Authority, but such use or occupation shall not relieve Contractor of its guarantee of said work and materials nor of its obligation to make good at its own expense any defect in materials and workmanship which may occur or develop prior to Contractor's release from responsibility to the Port Authority.

Right to Audit

As to all work which the Contractor may perform on a reimbursable basis or for which Contractor makes a claim for additional compensation or for which a claim is asserted by any third party or injured person the Port Authority will have the right at all reasonable times and places, to inspect, copy and audit any of Contractor's books, accounts, time cards, records of transactions, estimates, schedules, correspondence or any other records or documents which may have a possible bearing on the performance of such work of claim.

Further right of examination for all of Contractor's work will include inspection at all reasonable times of the Contractor's plant, or such parts thereof as may be engaged in the performance of the contract. All accounts, documents and records relevant to this contract will be retained by

the Contractor for three years after completion of the work, unless a longer period is required by law.

Preservation of Evidence

Contractor is required to give the Port Authority notice as soon as any type of accident, incident, or claim is asserted against Contractor or Owner and to preserve all evidence and to allow the Port Authority the opportunity to fully investigate all incidents prior to any evidence being moved, altered, covered up or destroyed in any manner.

Contract Obligations To Survive Performance

Obligations, including but not limited to, construction defect claims, personal injury claims, warranty claims and maintaining insurance, of the Contractor shall continue in place and shall survive as long as any contractual obligation exists.

19. PROTECTION AND RESTORATION OF PROPERTY

Where the work passes over or through private property, the Port Authority will secure access rights or easement.

The Contractor shall not enter upon private property for any purpose without previously obtained permission of the owner. The Contractor shall be responsible for the preservation of, and shall use every precaution to prevent damage to all trees, shrubbery, plants, lawns, fences, culverts, bridges, pavements, driveways, sidewalks, etc.; all water, sewer, gas lines; all conduits; all overhead pole lines or appurtenances thereof; and all public or private property along or adjacent to the work.

The Contractor shall notify the proper representatives of any public utility, corporation, and company or individual, not less than forty-eight hours in advance of any work which might interfere with the operation on their property along or adjacent to the work. The Contractor shall be responsible for all damages or injury to property resulting from its acts, omissions, negligence or misconduct or due to the Contractor's non-execution of the work, or at any time due to defective work or materials. The Contractor shall restore or have restored at its own cost and expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or make good such damage from injury in a manner acceptable to the Port Authority or the Engineer. In case of failure on the part of the Contractor to restore such property or make good such damage or injury, the Engineer may, upon forty-eight hours' written notice under ordinary circumstances and without notice when a nuisance or hazardous condition results, proceed to repair, rebuild or otherwise restore such property as may be determined necessary, and the cost thereof will be deducted from any monies due to the Contractor under this Contract and if not so deducted, the Contractor will be obligated to forthwith reimburse the Port Authority for the cost thereof.

Prior to construction, the Contractor shall obtain field locations or other assistance as may be required to determine the existence and location of gas lines and other private utilities as well as public utilities of the City, County, or State which may be underground or overhead.

The Port Authority and the City of Bloomington have attempted to include all available information that it has as to subsurface conditions, structures and utilities; surface materials and structures; and

overhead structures on the plans to assist the bidder in properly evaluating the amount and character of the work that might be required. Such information is given, however, as the best information available to the Port Authority and the City of Bloomington, and is not guaranteed. The Contractor, by careful examination, including contacting locators for utility companies and digging in advance of construction as necessary, shall satisfy itself as to the nature and location of the work; the character of equipment and facilities needed preliminary to and during the prosecution of the work; the general and local conditions; the exact location of existing facilities; and all other matters which can in any way affect the work under this Contract.

Aerial photographs, contour maps and other information are available at the City Engineer's office for examination by the bidders.

The Contractor shall not claim or be entitled to receive compensation for any damages sustained by reason of the inaccuracy or the omission of any of the information given on the drawings, relative to the surface, overhead, or underground structures or by reason of such Contractor's failure to properly protect and to maintain such structures.

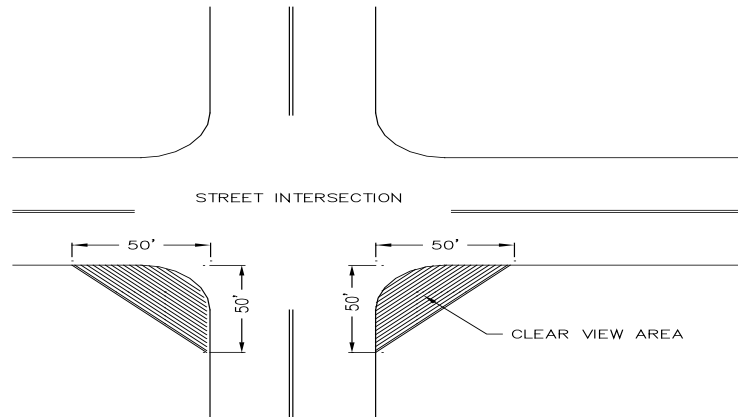
The Contractor is to exercise extreme care in crossing or working adjacent to all utilities and shall be responsible to protect and maintain their operation during the time the work is in progress. The Contractor shall restore, at their own expense, any public structures such as watermains, water connections and appurtenances, sewers, manholes, catch basins and sewer connections which are damaged or injured in any way by the Contractor's acts.

The Contractor shall defend, indemnify and hold harmless the Port Authority and the City of Bloomington, their officials, employees and agents, from any and all claims, causes of action, lawsuits, damages, losses, or expenses, including attorney fees, arising out of or resulting from the Contractor's (including its officials, agents, or employees) performance of the duties required under this Agreement, provided that any such claim, damages, loss or expense is attributable to bodily injury, sickness, diseases or death or to injury to or destruction of property including the loss of use resulting there from and is caused in whole or in part by any negligent act or omission or willful misconduct of Contractor.

20. CONTRACTOR'S PRIVILEGES IN STREETS, ALLEYS, AND RIGHTS-OF-WAYS

For the performance of the Contract, the Contractor will be permitted to occupy such portions of the streets or alleys, or other public places, or other rights-of-ways, as shown on the plans, or as permitted by the City Engineer. A reasonable amount of tools, materials, and equipment for construction purposes may be stored in such space, but not more than is necessary to avoid delays in the construction. Excavated and waste materials shall be piled or stacked in such a way as not to interfere with spaces that may be designated to be left unobstructed and shall not inconvenience occupants of adjoining property.

On any corner formed by intersecting streets, the Contractor shall not permit the placement or storage of materials and equipment or other obstructions to a height greater than three feet above the level of the center of the adjacent intersection within the area of land formed on the corner of the lot by measuring a distance of 50 feet along each curb line (or, if none, then each boundary line of the roadways) from the intersection of such lines (this is typical in all quadrants of intersections), as shown in the figure below:



Site-specific conditions may require adjustments by the Engineer in the size and location of the clear view area as described above.

Other Contractors of the Port Authority may, for all purposes required by their contracts, enter upon the work and premises used by the Contractor, and the Contractor shall give to other Contractors of the Port Authority all reasonable facilities and assistance for the completion of adjoining work. The area occupied by the Contractor shall be restored to original condition and the cost of restoration shall be incidental. Any additional ground desired by the Contractor shall be provided by, and at the expense of, the Contractor.

Where the work encroaches upon any right-of-way of any railway or State or County Highway, the Port Authority will secure the necessary easement for the work. Where railway tracks or such highway are to be crossed, the Contractor shall observe all the regulations and instructions of the railway company and Department of Transportation as to the methods of doing the work, or precautions for safety of property and the public. All negotiations with the railway company and Department of Transportation, except for the easement, shall be made at the Contractor's expense. The Contractor will not be paid direct compensation for such railway or highway crossing unless so provided in the Special Provisions and Bid. The Port Authority may elect to obtain the permit and the Contractor shall be so notified.

21. WORK IN STORMS

The Engineer shall have the right to stop work during rain or snow storms and all freshly placed work, unless otherwise protected, shall be protected by canvas or other suitable covering in such a manner as to prevent running water from coming in contact with it. Sufficient covering shall be provided and kept ready for this purpose. The Contractor will not be entitled to extra compensation for work so stopped or delayed by the Engineer.

Work shall be done at night only in case of emergency and only upon the direction of the Engineer. The Engineer has the right to order work to be carried on at night, if in the Engineer's opinion, it is in the best interest of the Port Authority. Work performed after dark shall be adequately

illuminated and suitable and sufficient lighting facilities shall be provided for this work. No extra compensation will be allowed the Contractor for work under this item.

22. USE OF EXPLOSIVES

If it is necessary to use explosives in the performance of the work, the Contractor shall take out permits and comply with all the laws, ordinances and regulations governing same. The Contractor shall fully protect all completed works as well as all overhead, surface, or underground structures and shall be liable for any damage done to the work or to other structures on public or private property and injuries sustained by persons by reason of the use of explosives during Contractor's operations. Explosives shall be handled, used and fired only by experienced personnel. All firing shall be done by electricity. All explosive supplies shall be safely stored and protected in an approved manner. All such storage places shall be marked clearly "DANGEROUS - EXPLOSIVES". Caps or other exploders shall not be stored at the place where dynamite or other explosives are stored.

23. NOISE ELIMINATION

The Contractor shall eliminate noise to as great an extent as possible at all times. Air compressing plants shall be equipped with silencers and the exhausts of all gasoline motors or other power equipment shall be provided with mufflers in accordance with current government regulations. The Contractor shall also be in conformance with the City noise ordinance (Chapter 10, Article IV). The Contractor shall be responsible to make application for a variance from Bloomington's noise ordinance if the proposed hours of work are outside of those shown below.

Weekdays - Working hours 7:00 a.m. to 10:00 p.m.

Saturday - Working hours 9:00 a.m. to 9:00 p.m.

Sunday - No construction activities

The Contractor is cautioned that moving or mobilizing equipment outside of the working hours is a violation of the noise code.

24. SANITARY PROVISIONS

The Contractor shall comply with all laws, rules and regulations of the State, and Local Health Authorities and shall take the necessary precautions to avoid unsanitary conditions.

Suitable sanitary conveniences for the use of all persons employed on the work, properly screened from public observation, shall be provided and maintained by the Contractor.

25. FOSSILS

If any fossils or treasure or other unusual or valuable geological formations or archeological remains are found in the progress of excavating, such fossils, treasure or samples of geological formations shall be carefully preserved by the Contractor who shall convey such items to a State or Federal Agency concerned with their preservation and study after notifying the Engineer. These items shall become the property of said State or Federal Agency.

26. RIGHT TO USE IMPROVEMENT

The Port Authority shall have the right to open to traffic or public use any portion of this improvement prior to the final completion of the whole work, but the use of any part or portion of this improvement by the Port Authority, the City of Bloomington, by the public, or by any person or party, shall not be construed as acceptance of any portion of the work prior to the time of final completion and acceptance of the entire improvement.

27. MONUMENTS

The Contractor shall not disturb any monuments found on the line of this improvement until ordered by the Engineer. The Engineer, or authorized representative, will furnish and set all new monuments required along the line of this improvement, but the Contractor will be responsible for their protection.

In case the Contractor disturbs any monument without orders from the Engineer, the Contractor will be charged the cost of the replacement survey and other work required to relocate the same.

28. CONSTRUCTION STAKES, LINES AND GRADES

All work under this Contract shall be constructed in accordance with lines and grades shown on the drawings and as established by the Engineer. These lines and grades may be modified by the Engineer as provided in Article 5 of these General Specifications.

The Contractor shall render such assistance to the Engineer or Inspector as may be required to accomplish the staking for proper execution of the work which may include, but is not limited to moving stockpiles, clearing and grubbing or other facilitating the installation of the stakes.

The Contractor shall give the Engineer or Inspector sufficient notice (two working days, or more as notified in writing by the Engineer) of need for the establishment of line and grade. After lines and grades for any part of the work have been set by the Engineer, or authorized representative, the Contractor shall be held responsible for the proper execution of the work to such lines and grades. All stakes or other marks given shall be protected and preserved by the Contractor until the Engineer or Inspector authorizes their removal. The Contractor shall, without cost to the Port Authority, correct any mistakes caused by their unauthorized disturbance or removal. The Engineer or Inspector may require that work be suspended at any time when, for any reason, such marks cannot be properly followed. In case the Contractor disturbs any stake without orders from the Engineer, the Contractor will be charged the cost of the replacement survey and other work required to relocate the same.

No additional compensation shall be allowed to the Contractor for any claims of crews being held up or there after accelerated because of lack of line and grade stakes unless a written request is submitted to the Engineer at least two working days in advance and is following a previously approved schedule of work.

29. INSPECTION

The Contractor shall keep the Inspector advised as to work schedule. Any work performed at times or places outside of the established work schedule shall be regarded as contrary to and outside of the terms of this Contract and the Engineer or an authorized representative thereof may order such

work torn out or removed and replaced without obligation on the part of the Port Authority to pay for the same.

Whenever the Engineer assigns an Inspector to the Project, it shall be the duty of the Inspector to inspect the construction of the improvement and all materials used on the improvement to determine if the work is proceeding in accordance with the contract documents.

No material of any kind shall be used on any part of this improvement until it has been inspected and approved by the Engineer or the Inspector. All rejected materials shall be removed from the line of this improvement by the Contractor within two working days after its rejection.

Instructions given by the Inspector shall be respected and executed by the Contractor, but no Inspector shall have the power to waive the obligations of the Contractor to furnish good material or to do good work, as herein specified. Whenever improper materials are being used, or improper work is being done, the Inspector shall have the authority to suspend operations until corrective measures are taken.

Failure to condemn any inferior material or work at the time of its use on construction shall not be construed as an acceptance of the same, but the Contractor shall upon notice from the Engineer at any time prior to the final acceptance of the improvement immediately tear out, remove and properly reconstruct, at the Contractor's own cost, any portion of this improvement which the Engineer may decide to be defective and the Contractor will be held wholly responsible for the safety, proper construction and protection of the entire improvement until the same has been finally accepted and paid for by the Port Authority of the City of Bloomington.

The Engineer or Inspector will make final inspection of all work included in the Contract or any portion thereof, as soon as practicable after written notification by the Contractor that such work is nearing completion. If such work is not acceptable at the time of inspection, the Engineer or Inspector will advise the Contractor in writing as to the particular defects to be remedied before such work can be accepted. If, within a period of ten (10) days after such notification, the Contractor has not taken steps to speedily complete the work as directed, the Engineer may without further notice and without in any way impairing the Contract, make such other arrangements as the Engineer may deem necessary to have such work completed in a satisfactory manner. The cost of completing such work shall be deducted from any monies due, or which may become due the Contractor on the Contract.

30. ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent rights, and shall save the Port Authority and the City harmless for loss on account thereof except such claims of suits arising by reason of patent infringement or unauthorized use of patented processes where such is the direct result of specification requirements, but if the Contractor has information that the process or articles specified is an infringement of patent, the Contractor shall be responsible for such loss unless the Contractor promptly gives such information to the Engineer.

31. ASSIGNMENT OF CONTRACT

No portion of the Contract shall be sublet, assigned, or otherwise disposed of except with the written consent of the Port Authority. Requests for permission to sublet, assign, or otherwise dispose of any portion of the Contract shall be in writing and accompanied by the written consent of the surety. Written consent to sublet, assign, or otherwise dispose of any portion of the Contract shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the Contract. All subcontractors shall be regarded as agents of the Contractor and the latter shall be responsible for all work and material furnished and any indebtedness incurred by such agents.

For Projects in excess of \$50,000, the Contractor may sublet work only to subcontractors that meet the definition of "responsible contractor" in Minnesota Statutes §16C.285, subdivision 3. The Contractor is responsible for obtaining verifications of compliance with §16C.285 from subcontractors using a form provided by the Port Authority. The Contractor must provide such verifications to the Port Authority upon the Port Authority's request.

The Contractor agrees that it must pay any subcontractor within ten days of the prime contractor's receipt of payment from the municipality for undisputed services provided by the subcontractor. The Contractor agrees that it must pay interest of 1-1/2 percent per month or any part of a month to the subcontractor on any undisputed amount not paid on time to the subcontractor. The minimum monthly interest penalty payment for an unpaid balance of \$100 or more is \$10. For an unpaid balance of less than \$100, the prime contractor shall pay the actual penalty due to the subcontractor. A subcontractor who prevails in a civil action to collect interest penalties from a prime contractor must be awarded its costs and disbursements, including attorneys fees, incurred in bringing the action.

32. FORFEITURE OF CONTRACT

If at any time the Engineer is of the opinion that the work is unnecessarily delayed, and will therefore not be finished within the prescribed time, the Engineer shall notify the Contractor, in writing, to that effect. If the Contractor does not within five days thereafter take such measures as will, in the judgment of the Engineer, insure the satisfactory completion of the work, the Port Authority may then notify the said Contractor to discontinue all work under the Contract for this improvement, and the Contractor shall immediately respect such notice and stop work, and cease to have any rights to the possession of the grounds.

The Port Authority may thereupon re-let said contract or employ such forces as they deem advisable to complete the work, and charge the cost of all labor and materials necessary for such completion to the said Contractor, and the amount so charged shall be deducted and paid by the Port Authority out of such monies as may be then due, or afterwards become due, to the said Contractor, under and by virtue of the Contract for this improvement.

In case such amount so paid by the Port Authority is less than the sum which would have been payable to the Contractor if the Contract has been fulfilled by such Contractor, then the Contractor shall be entitled to receive the difference, and in case such amount is greater, the said Contractor shall pay to the Port Authority the amount of such excess so due. If the Contractor shall assign the Contract for this improvement without the written consent above required, or shall abandon the work thereon, or shall neglect or refuse to comply with these specifications and the instructions of the Engineer relative thereto and with the ordinances of the City; the Port Authority Board shall

have the right to annul and cancel said Contract and to re-let the work, or any part thereof, and such annulment shall not entitle the Contractor to any claim for damages on account thereof, nor shall it affect the right of the Port Authority to recover damages which may arise from such failure.

In case the Port Authority assumes control of the work under the Contract for this improvement for any of the above reasons, the Port Authority shall have the right to seize all machinery, tools and materials on hand belonging to the Contractor, and to use the same to complete the work at the Contractor's expense.

33. INJUNCTIONS

If by reason of any court proceedings, instituted by any third party or by the Port Authority, affecting, directly or indirectly, the construction or completion of any portion or portions of this improvement, the Contractor or the Port Authority of the City of Bloomington shall be unable to construct or complete said portions of the work, and if in consequence thereof it shall, at the discretion of the Port Authority Board, be impractical to construct or complete any other portion or portions thereof; the Contractor shall, and does hereby waive any and all claims for damages because of such inability to complete the improvement as planned. The City Engineer shall have the right to report such improvement as completed and file a final estimate thereof as provided for in the full completion of other improvements in the City, and the Contractor shall accept in full payment of the work upon said improvement, and as a cancellation of the Contract thereof, a sum of money determined in strict accordance with the Contractor's bid for the Contract, on the basis of the work actually completed up to the time of stopping thereof.

34. DISPUTES AND LITIGATION

Any questions arising between the Inspector placed upon the work by the Engineer and the Contractor or Superintendent or Foreman as to the meaning and intent of any part of the Plans or Specifications for this improvement shall be immediately brought to the attention of the Engineer and will be adjusted by the Engineer.

Failure on the part of the Engineer, or the authorized representative thereof, to discover and condemn or reject bad or inferior work or materials shall not be construed as an acceptance of any such work or material, or the part of the improvement in which the same may have been used.

To prevent disputes and litigation, it is further agreed by the parties hereto that the Engineer shall determine the volume and quality of the several kinds of work embraced in these improvements. The Engineer shall decide all questions relative to the execution of the work and the interpretation of the Plans and Specifications.

In the event of a dispute between the Port Authority and the Contractor, the parties hereto agree that the City Engineer shall determine the volume and quality of the several kinds of work embraced in the Improvements outlined in the Specifications and Special Provisions for the Project. If no agreement can be reached, the Port Authority and the Contractor may mutually agree to submit all claims, disputes and other matters in question between the parties arising out of or relating to this Agreement to mediation. The mediation shall be conducted through the Mediation Center, 1600 Utiica Avenue, Suite 700, Saint Louis Park, MN 55416. The parties hereto shall decide whether mediation shall be binding or non-binding. If the parties cannot reach agreement, mediation shall be non-binding. In the event mediation is unsuccessful, either party may exercise

its legal or equitable remedies and may commence such action prior to the expiration of the applicable statute of limitations.

35. PERFORMANCE AND PAYMENT GUARANTEE BOND

The Contractor shall furnish within ten (10) days after notice of award, two bonds; a performance and payment bond each in the amount of the full contract price, in compliance with State statutes to guarantee the faithful performance of the Contract and the payment of all labor, mechanics, subcontractors and material. The performance bond shall cover a minimum period of one year after acceptance by the Port Authority, as respects faulty workmanship and materials. The performance bond and payment bond shall be furnished by a corporate surety company authorized to do business in the state of Minnesota and acceptable to the Port Authority subject to the approval of the Port Authority General Counsel as to form.

The Contractor is advised that the AIA 312 Performance Bond is not acceptable. An AIA 311 Performance Bond is acceptable. The AIA 312 Payment and Materials bond is acceptable.

The amount of the bonds shall be increased to reflect the amount of any change orders awarded to the Contractor. The cost of the increased amount of the bonds shall be incidental to the various contract unit prices.

36. CONTRACTOR'S INSURANCE

The Contractor shall not commence work under this Contract until all insurance required under this article has been obtained and until copies of policies and certificates required by this article are submitted to the Office Port Authority Administrator, 1800 West Old Shakopee Road. The Contractor shall not allow any subcontractor to commence work until the insurance has been obtained and copies of policies and certificates submitted to the Port Authority Administrator.

a) Commercial General Liability and Property Damage Insurance

The Contractor shall take out and maintain at their own cost and expense, commercial general liability and property damage insurance, during the period from the commencement until final completion of the work under this contract. Said insurance shall protect the Contractor, any subcontractor performing work covered by the Contract, and the Port Authority from claim for property damage which may arise from operations under this Contract, whether operations be made by the Contractor, subcontractor, or by anyone directly or indirectly employed by either of them. This also includes claims arising by reason of any injury or damage sustained after the Contractor has completed the work or left the site thereof. The commercial general liability insurance shall be in an amount not less than \$1,500,000 for injuries, including accidental death, to any one person, and in the minimum amount of \$1,500,000 for injuries, including death, for any one accident or occurrence. The property damage insurance shall be in the minimum amount of \$1,500,000.

b) Worker's Compensation Insurance

Worker's Compensation Insurance shall be as required by the laws of the State of Minnesota.

c) Automobile Insurance

Contractors shall secure and maintain during the life of this Contract automobile public liability insurance in the amount of \$500,000 for bodily injuries, including death, for any one person or \$1,500,000 per occurrence and automobile property damage insurance in the minimum amount of \$1,500,000. Each motor vehicle, including hired vehicles, engaged in operation within the terms of this Contract shall be covered by such automobile insurance.

d) Certificates

The Port Authority will be named as an additional insured on the Contractor's insurance policies. Copies of all policies shall be deposited with the Port Authority Administrator and certificates evidencing such insurance shall be filed with the Port Authority Administrator. The certificates shall be executed by the insurer and shall expressly stipulate that the policies are non-cancelable without thirty (30) days notice in writing to the Port Authority shall be filed with the Port Authority Administrator, and that the policy not be cancelable until documents have been supplied to the Port Authority Administrator for policies to replace those being canceled. The canceling company and/or the replacing company shall be responsible for all work completed prior to the cancellation of policies. Certificates for liability policies must show that the Port Authority is one of the parties insured by the respective policies. All insurance policies and certificates shall be submitted prior to the execution of the Contract and shall be subject to the approval of the Port Authority General Counsel.

The Contractor shall furnish to the Port Authority updated certificates during the term of the Contract as insurance policies expire. If the Contractor fails to furnish proof of insurance coverages, the Port Authority may withhold payments and/or pursue any other right or remedy allowed under the Contract, law, equity, and/or statute.

To meet the above requirements, the Contractor may use a combination of Commercial General Liability and Umbrella coverage, as long as the Port Authority approves such use and it is evidenced on the Certificate of Insurance naming the Port Authority as an additional insured on both policies. The Umbrella needs to be a following form coverage and provide a thirty (30) day notice of cancellation.

37. LABOR

None but competent labor shall be employed on this work. Wherever mechanical work is required, it shall be performed by skilled labor.

The Project Supervisor or other person directing the work shall be competent, sober and reliable, and shall extend every facility to the Engineer to enable the Engineer to properly discharge the duties thereof, and shall furnish any help as may be necessary to facilitate the inspection of materials.

The Contractor will not be allowed added compensation for any work performed on Saturdays, Sundays, or legal holidays.

38. INDEPENDENT CONTRACTOR

It is agreed that nothing herein contained is intended or should be construed in any manner as creating or establishing the relationship of co-partners between the parties hereto or as constituting the Contractor as the agent, representative or employee of the Port Authority or City of Bloomington for any purpose or in any manner whatsoever. The Contractor is to be and shall remain an independent contractor with respect to all services performed under this contract. The Contractor represents that it has, or will secure at its own expense, all personnel required in performing services under this contract. Any and all personnel of the Contractor or other persons while so engaged, and any and all claims whatsoever on behalf of any such person or personnel arising out of employment or alleged employment including, without limitation, claims of discrimination against the Contractor, its officers, agents, contracts or employees shall in no way be the responsibility of the Port Authority or the City of Bloomington; and the Contractor shall defend, indemnify and hold the Port Authority, the City of Bloomington, and their officers, agents and employees harmless from any and all such claims regardless of any determination of any pertinent tribunal, agency, board, commission or court. Such personnel or other persons shall not require nor be entitled to any compensation, rights or benefits of any kind whatsoever from the Port Authority or City of Bloomington, including, without limitation, tenure rights, medical and hospital care, sick and vacation leave, Workers' Compensation, Unemployment Compensation, disability, severance pay and PERA.

39. NONDISCRIMINATION CLAUSE

The Port Authority hereby notifies all bidders that businesses owned and controlled by minorities or women will be afforded maximum feasible opportunity to submit bids and/or proposals. The Port Authority also notifies all persons that no one will be subjected to discrimination on the basis of race, color, creed, religion, ancestry, national origin, sex, disability, age, marital status, or status with regard to public assistance.

If the contract is awarded to the bidder, the bidder shall adhere to Chapter 2, Article VII of the City Code which requires that the following provisions be incorporated in the Contract.

(1) that, in the hiring of common or skilled labor for the performance of any work under any contract, or any subcontract, no contractor, material supplier, or vendor, shall, by reason of race, creed, or color, discriminate against the person or persons who are citizens of the United States or resident aliens who are qualified and available to perform the work to which the employment relates;

(2) that no contractor, material supplier, or vendor, shall, in any manner, discriminate against, or intimidate, or prevent the employment of any person or persons identified in clause (1) of this section, or on being hired, prevent, or conspire to prevent, the person or persons from the performance of work under any contract on account of race, creed, or color;

(3) that a violation of this section is a misdemeanor; and

(4) that this contract may be canceled or terminated by the Port Authority, and all money due, or to become due under the contract, may be forfeited for a second or any subsequent violation of the terms or conditions of this contract.

The Contractor agrees to comply with the Americans With Disabilities Act (ADA) and agrees to hold harmless and indemnify the Port Authority from costs, including but not limited to damages, attorney's fees and staff time, in any action or proceeding brought alleging a violation of ADA. The Port Authority of the City of Bloomington does not discriminate on the basis of disability in the admission or access to, or treatment or employment in, its services, programs, or activities.

Upon request accommodation will be provided to allow individuals with disabilities to participate in all City of Bloomington services, programs, and activities. The City has designated coordinators to facilitate compliance with the Americans with Disabilities Act of 1990, as required by Section 35.107 of the U.S. Department of Justice regulations, and to coordinate compliance with Section 504 of the Rehabilitation Act of 1973, as mandated by Section 8.53 of the U.S. Department of Housing and Urban Development regulations. For information contact the Human Services Division, City of Bloomington, 1800 West Old Shakopee Road, Bloomington, Minnesota 55431; telephone: 952 563-8700; TDD: 952 563-8740.

40. AIR, LAND AND WATER POLLUTION

The Contractor shall schedule and conduct construction operations in a manner that will prevent, control, minimize or abate pollution of air, land and water in accordance with all governing laws and ordinances. The Contractor shall comply by the requirements of Mn/DOT's Standard Specifications for Construction Section 1717 regardless whether or not an NPDES permit for the work is required.

Wherever a bituminous mixing plant, aggregate crusher or similar operation is to be conducted, the Contractor shall be acquainted with the state and local conditions and regulations pertaining to air pollution before commencing operations.

The Contractor shall take all necessary precautions and actions to prevent pollution of both flowing and impounded waters of the State with any particulate or liquid matter that may be harmful to fish and wildlife or detrimental to public use of the water. Construction operations, including operations in borrow pits or waste areas and construction of haul roads, shall be scheduled and conducted so as to minimize soil erosion and prevent silting or muddying of public waters.

41. GUARANTEE

The Contractor shall be held responsible for any and all defects in workmanship and materials which may develop in any part of the entire installation furnished under this contract. Upon written notice by the Engineer or an authorized representative thereof, the Contractor shall immediately replace and make good without expense to the Port Authority any such faulty parts and materials installed not in accordance with these plans and specifications during the period of one year from the date of final acceptance of the Project. "Final Acceptance of the Project" shall be interpreted as the date in which all punch list items are agreed upon and deemed final. On Projects with landscaping items this final acceptance period can not occur until the plant establishment period has elapsed.

Should the Contractor fail to make good the defective parts within a period of thirty (30) days of such notification after written notice has been given such Contractor, the Port Authority may replace these parts, charging the expense of same to the Contractor.

42. DRILLING OF TEST HOLES

Attention is called to Section 16.32 of the City Code of Bloomington, which states, in part, "It shall be unlawful for any person other than authorized City employees to dig up, break, excavate, tunnel, drill, bore, undermine or in any manner break up any public way or public ground or to make or cause to be made any excavation in or under the surface of any public way or public ground, or to place, deposit or leave upon any public way or public ground any earth or excavated material obstructing or tending to interfere with the free use of the public way or public ground unless such person shall first have obtained an excavation permit therefore from the City Engineer as herein provided."

Any person drilling test holes within the area of this Project must secure a permit for such test holes from the Office of the City Engineer. The Contractor must also notify all utility companies of the Contractor's intention to drill so that the Contractor will become informed on the location of all underground utilities.

A performance bond in the amount of \$5,000 is required prior to issuance of any such permit.

This provision does not apply to work performed as part of the Project after the Contract is let.

CITY OF BLOOMINGTON PUBLIC WORKS

CONFINED SPACE ENTRY PROGRAM

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1.0 Purpose:

The Confined Space Entry program contains procedures and practices to protect Public Works employees from the hazards of entry into confined spaces.

2.0 Scope:

This Confined Space Entry Program has been modified in accordance with applicable state and federal regulations and has been approved as the City of Bloomington Public Works' confined spaces program by the administrative authority shown below.

Applicable Divisions	Approving Authority	Date Approved
Administration	Charles Honchell, Director of Public Works	
Administration	Jim Gates, Deputy Director of Public Works	
Engineering	Shelly Pederson, City Engineer	
Maintenance	Larry Tschida, Maintenance Superintendent	
Utility	Bob Cockriel, Utilities Superintendent	

3.0 Definitions:

Confined space is defined as:

- A. A space that is large enough for someone to enter and perform work.
- B. A space that has limited or restricted means for entry or exit.
- C. A space that is not designed for continuous employee occupancy.

Permit required confined spaces refers to a space that:

- A. Contains or has the potential to contain a hazardous atmosphere due to oxygen deficiency (>19.5% by volume), oxygen enrichment (<23.5% by volume), the presence of flammable, explosive, toxic, or other incapacitating substances.
- B. Contains material such as finely divided particulate matter or liquid that has the potential to engulf the entrant.
- C. Has an internal configuration that could trap the entrant and make an emergency rescue difficult.
- D. Contains any other recognizable serious safety or health hazard.

Confined space entry means any action resulting in any part of the worker's body breaking the plane of the access opening and any ensuing work activities inside the space.

All confined spaces entered by Public Works employees will be treated as permit required confined spaces. If atmospheric tests and inspections for a period of not less than six months shows that all hazards within the space have been eliminated the space may be reclassified as a non-permit required confined space.

4.0 Hazard Identification:

All work in a confined space shall be accomplished only after all potential hazards have been identified. The *Inventory of Confined Spaces* form can be used for this purpose. The Entry Supervisor may determine the severity of the hazards involved in a specific confined space. This "severity" rating is a comparison of the potential hazards within confined spaces on a scale of 1 to 10 where 1 = no hazard and 10 = deadly hazard.

5.0 Hazard Control:

Supervisors must ensure that employees are using safe entry practices and procedures while conducting work in confined spaces. Hazard control is accomplished by:

- A. Identifying permit required confined spaces and estimating a severity rating.
- B. Completing and authorizing a written permit prior to entry.
- C. Conducting appropriate employee training sessions.
- D. Evaluating the space by utilizing proper air testing equipment and keeping a record of the results, as well as the permit, for at least one year. Entrants shall be allowed to observe the testing.
- E. Following standard operating procedures to reduce or eliminate potential hazards.
- F. Establishing emergency rescue procedures.
- G. Complete a certification form when permit required confined spaces are down graded to non-permit status.

6.0 Employee Information:

Warning signs notify employees of potential hazards in the "permit required" confined space and limits entry to authorized personnel. Signs will be posted to identify permit required confined spaces, if feasible. Supervisors will inform employees of permit required confined spaces in their work areas in cases where warning signs are not feasible such as access to manholes in the middle of a street. An example of a typical warning sign is shown below.

The locations of the "permit required" confined spaces are reviewed during employee training sessions for attendants, entrants, supervisors of confined space projects and the individuals who authorize entry permits.

(Red & black sign) ⇒



7.0 Confined Space Permit System:

A confined space entry permit will be completed and authorized prior to any employee entering a confined space. The person in charge of the project is responsible for completing the entry permit. The completed permit identifies procedures and practices that are required before and during entry. In addition, employees serving as attendants and entrants, as well as any other requirements of the regulation, are specified on the permit. Once the confined space entry permit is completed and authorized it must be posted outside of the designated confined space before entry into the space is allowed.

An entry permit is valid for the duration of one shift (not to exceed 12 hours) providing the confined space is not put back into service and no atmospheric change takes place during the shift. If there is an atmospheric change during the time the work is being performed, the confined space will be immediately evacuated. A new permit must then be issued and authorized prior to re-entry. When work crews are scheduled to change at the end of a shift, the confined space must have another atmospheric check done and entry permit posted prior to the new crew entering the space.

A designated Entry Supervisor or one of the following individuals may authorize written permits only after all requirements of the Confined Space Program have been addressed. The authorizing individual will also cancel the permit after the work has been completed.

Job Title	Phone Number
Equipment Supervisor	(952) 563-4920
Facilities Maintenance Supervisor	(952) 563-8763
Park Maintenance Supervisor	(952) 563-8765
Park Maintenance Supervisor	(952) 563-8759
Street Maintenance Supervisor	(952) 563-8764
Street Maintenance Supervisor	(952) 563-8769
Street Maintenance Supervisor	(952) 563-8767
Civil Engineer – Streets	(952) 563-4865
Water Quality Supervisor	(952) 563-4906
Wastewater Supervisor	(952) 563-4912
Water Supervisor	(952) 563-4911
Civil Engineer – Water Resources	(952) 563-4533

* Completed permits shall be maintained for **one year** from the date of issue.

8.0 Prevention of Unauthorized Entry:

Special precautions are taken to limit entry into permit required confined spaces. Precautions to prevent unauthorized entry include posting signs, constructing barriers and employee training. Supervisors are instructed to prohibit anyone from entering a permit required confined space without a properly authorized permit. Attendants prohibit unauthorized entry into a confined space while work is being conducted in that space.

9.0 Confined Space Entry Training:

The Public Works Department will provide appropriate confined space entry training prior to assigning an employee to serve as an attendant or entrant to ensure that the hazards associated with confined space entry are known. Employees are expected to remain familiar with the requirements of the confined space entry standard. To assist employees with this, the Public Works Department will do the following:

- A. Provide a copy of the Confined Space Entry Program to all affected employees.
- B. Provide copies of the Confined Space Entry Permit to all affected employees.
- C. Supervisors will periodically conduct a worksite inspection to assist employees in complying with the confined space entry policy.
- D. Confined space refresher training will be conducted at least annually.
- E. A written record will be maintained for confined space entry training.

10.0 Equipment:

Special equipment is used to assess confined space hazards and protect employees from these hazards. The Public Works Department will provide appropriate equipment to all employees who work in or near a permit required confined space. These devices include air testing instruments, ventilation equipment, communication equipment, tripod with full body harness and lifeline system as well as other necessary personal protective equipment. All equipment should be inspected prior to use and any deficiencies should be reported to the employee's supervisor immediately.

11.0 Emergency Procedures:

If an emergency situation arises, the attendant is not to enter the confined space until help has arrived. The first rule of emergency rescue is to ensure personal safety.

- A. The attendant will immediately request assistance from Emergency Services (Fire/Police Department) via the radio system or telephone.
- B. The attendant will continue ventilating the confined space until help arrives.
- C. The attendant may attempt a rescue from outside of the confined space using a tripod with full body harness and lifeline system after Emergency Services have been notified.

12.0 Protection From External Hazards:

While permit required confined space work is being conducted, physical barriers must be erected to control pedestrian and vehicle traffic as necessary. This action will provide protection to attendants and entrants from these hazards during the course of their work.

13.0 Downgrading Permit Required Confined Spaces:

A permit required confined space may be downgraded to a non-permit confined space if previous permits and other appropriate documentation from a period of a least six months indicate the space contains no confined space hazards.

Evidence for this determination is listed on the *Certification for Non-Permit Required Confined Spaces* form and signed by the appropriate Division Head. Supervisors will notify affected employees that the space has been downgraded to a non-permit required confined space.

14.0 Confined Space Entry by a Hired Contractor:

Independent contractors who conduct work for the City of Bloomington Public Works Department are expected to comply with the City's confined space entry program, and all laws, ordinances, rules and regulations of the State of Minnesota and all other public agencies. The project manager will coordinate entry operations with the contractor when Public Works' employees and the contractor's employees are working together in a confined space. If it becomes known that the contractor has not instituted an appropriate permit entry system, that contractor will be prohibited from conducting work in the space.

The project manager will make the contractor aware of known hazardous substances and other potential safety hazards in the confined space, but ultimately it is the contractor's responsibility to ensure that all confined spaces are safe to enter. To accomplish this the contractor must complete their own atmospheric testing prior to entry, inform their employees of any hazards and make sure they are familiar with all applicable procedures.

The project manager will periodically contact the contractor during the course of the project to ensure confined space procedures are appropriate and to inquire about hazards involved in the confined space for that project.

15.0 Indemnification

The Contractor shall defend, indemnify and hold harmless the City of Bloomington, its officials, employees and agents, from any and all claims, causes of action, lawsuits, damages, losses, or expenses, including attorney fees, arising out of or resulting from the Contractor's (including its officials, agents or employees) performance of the duties required under this Agreement, provided that any such claim, damages, loss or expense is attributable to bodily injury, sickness, diseases or death or to injury to or destruction of property including the loss of use resulting therefrom and is caused in whole or in part by any negligent act or omission or willful misconduct of Contractor.

16.0 Insurance

The Contractor shall maintain the following insurance policies/coverages in the required amounts:

- A. Comprehensive General Liability, bodily injury in the amount of at least \$1,000,000 per individual and \$1,000,000 per occurrence.
- B. Property damage liability in the amount of \$1,000,000 per occurrence.
- C. Workers' Compensation Insurance as required by Minnesota Statutes, Section 176.181, subdivision 2.
- D. Professional liability insurance in the amount of \$1,000,000.
- E. The Contractor will name the City of Bloomington as additional insured on said insurance policies and will provide a certificate of said insurance to the City prior to commencing work on the project.

17.0 References:

Federal OSHA General Industry Standards
Title 29 CFR 1910.146, Permit Required Confined Spaces regulation

Minnesota Department of Labor & Industry
OSHA Laws and Rules Chapter 5207.0300 Confined Spaces

Appendices

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DAILY PERMIT FOR CONFINED SPACE ENTRY
City of Bloomington Public Works Department

The completion of this form is required for all permit required confined spaces that personnel must enter in the course of their duties. The permit is completed and signed by the authorizing person prior to entry into the confined space and must remain at the job site for the duration of the work operation.

Identity of Work Location and Personnel Involved

Date/Time Issued:	Expiration Date/Time:
Location and Description of Space:	
Purpose for Entry: Repair _____ Cleaning _____ Inspection _____ Other _____	
Entry Supervisor:	
Authorized Entrant(s):	
Authorized Attendant(s):	
_____ Check if entrants and attendants will rotate duties	

Authorization of Permit

(Printed Name)	(Signature)

Cancellation of Permit (mark and initial as appropriate)

_____ WORK COMPLETED, SPACE RETURNED TO SERVICE.	
Initials of person who authorized this permit _____	Cancellation date _____
_____ WORK INTERRUPTED. Space secured & posted. A new permit will be completed prior to re-entry. Problem encountered or other comments:	

* This permit is to be immediately revoked when atmospheric tests performed during confined space occupancy show deviation from permit conditions to a more hazardous condition.

***FOR RESCUE OR EMERGENCY ASSISTANCE CONTACT POLICE DISPATCH
BY DIALING 911 FROM ANY TWO-WAY COMMUNICATION DEVICE***

(OVER)

COMPLETE EACH SECTION AS APPLICABLE. Mark the item (x) and the specified action (SA) taken. Make a record of the results (ROR), if applicable. *This permit must remain at the worksite for the duration of the work.*

Description of Hazards

<input type="checkbox"/> Oxygen Deficiency	<input type="checkbox"/> Entry / Exit	<input type="checkbox"/> Noise	<input type="checkbox"/> Haz. Chemicals
<input type="checkbox"/> Slips / Falls	<input type="checkbox"/> Toxic Atmosphere	<input type="checkbox"/> IDHL	<input type="checkbox"/> Engulfment
<input type="checkbox"/> Heat / Cold	<input type="checkbox"/> Electrical	<input type="checkbox"/> Fire / Explosion	<input type="checkbox"/> Other: _____
SA: _____			
ROR: _____			

Isolation Procedures

<input type="checkbox"/> Blank Pipes	<input type="checkbox"/> Disconnect / Dissipate Energy	<input type="checkbox"/> Barricade
<input type="checkbox"/> Drain / Purge Lines	<input type="checkbox"/> Lockout / Tagout / Block Equipment	<input type="checkbox"/> Disengage
<input type="checkbox"/> Redirect Traffic	<input type="checkbox"/> Other: _____	
SA: _____		
ROR: _____		

Hazard Control Measures

<input type="checkbox"/> Ventilate	<input type="checkbox"/> Periodic Monitoring (How Often?)	
<input type="checkbox"/> Test Atmosphere	<input type="checkbox"/> Continuous / Personal Monitoring	<input type="checkbox"/> Attach Hot Work Permit
<input type="checkbox"/> Pre-Cleaning Required	<input type="checkbox"/> Remove Ignition Sources	Other: _____
SA: _____		
ROR: _____		

Conditions to Maintain During Entry

<input type="checkbox"/> Oxygen (19.5 to 23.5%)	<input type="checkbox"/> Combustibles (10% LEL or less)	<input type="checkbox"/> Other: _____
Toxic gases: <input type="checkbox"/> Carbon Monoxide (35ppm or less) <input type="checkbox"/> Hydrogen Sulfide (10ppm or less)		
SA: _____		
ROR: _____		

Emergency Services and Other Equipment

<input type="checkbox"/> Means to Summon Help	<input type="checkbox"/> Emergency Procedures	
<input type="checkbox"/> Mechanical Retrieval Unit (required >5 ft. depth)		
<input type="checkbox"/> Chest or Full Body Harness with Attached Line		
<input type="checkbox"/> Life Lines	<input type="checkbox"/> Self-Contained Breathing Apparatus	<input type="checkbox"/> Lighting
<input type="checkbox"/> Ladder	<input type="checkbox"/> Alert Local Rescue Team	<input type="checkbox"/> Other: _____
SA: _____		
ROA: _____		

Communications Procedures and Equipment

<input type="checkbox"/> Two-way Radio	<input type="checkbox"/> Continual Voice contact	<input type="checkbox"/> Other: _____
SA: _____		

Required Personal Protective Equipment

<input type="checkbox"/> Respirators	Type: _____
<input type="checkbox"/> Protective Clothing	Type: _____
<input type="checkbox"/> Eye / Foot / Head	Type: _____
<input type="checkbox"/> Other	Type: _____

* This permit must be retained on file for one year.

VENTILATION CHART FOR CONFINED SPACE ENTRY

Volume of Space (Cubic Feet)	Effective Blower Capacity (Cubic Feet per Minute)								
	200	300	400	500	600	700	800	900	1,000
100	5	5	5	5	5	5	5	5	5
200	8	5	5	5	5	5	5	5	5
300	10	8	6	5	5	5	5	5	5
400	16	10	8	6	5	5	5	5	5
500	20	14	10	8	7	6	5	5	5
600	25	17	12	10	8	7	6	5	5
700	28	20	14	11	9	8	7	6	5
800	30	22	15	13	10	9	8	7	6
900	32	24	17	14	11	10	9	8	7
1,000	35	25	20	15	12	11	10	9	8
<i>This table indicates purging time in minutes for manholes and vaults when combustible gas is not detected. Double the purging time when 1 to 10% LEL is detected in a manhole or vault.</i>									

Notes:

- The effective blower capacity is reduced for each 90-degree bend in the output hose of the blower as follows:

One 90-degree bend → The blower output is only 70% of its rated capacity.

Two 90-degree bends → The blower output is only 49% of its rated capacity.

Three 90-degree bends → The blower output is only 34% of its rated capacity.

When more than one length of blower output hose is used → Each additional hose length is the same as adding one 90-degree bend.

- If two purging blowers are used, add the effective blower capacities of both blowers.

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HOT WORK PERMIT

City of Bloomington Public Works Department

(For welding, heat fusion and other heat required processes)

This permit is required in addition to the Daily Confined Space Entry Permit prior to starting work that may provide sources of ignition in a confined space.

Nature of work to be done:

 <hr/>

Equipment that is a source of ignition and must be in the confined space:

 <hr/>

Type of ventilation used to remove fumes or vapors from Hot Work:

 <hr/>

YES

NO

<input type="checkbox"/>	<input type="checkbox"/>	Confined Space Isolated
<input type="checkbox"/>	<input type="checkbox"/>	Confined Space Purged or Ventilated
<input type="checkbox"/>	<input type="checkbox"/>	Gas Tests Completed
<input type="checkbox"/>	<input type="checkbox"/>	Could Hot Work Be Done Outside

I certify that I have verified the procedures and have briefed the crew on the proper practices and hazards of performing "Hot Work" in confined spaces.

Signature of Entry Supervisor

Date

Cancellation Date _____

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CERTIFICATION FOR NON-PERMIT REQUIRED CONFINED SPACE
City of Bloomington Public Works Department

Confined space location:

--

Evidence that no potential or actual confined space hazards exist in this space:

(Attach previous permits or other pertinent documentation to this form.)

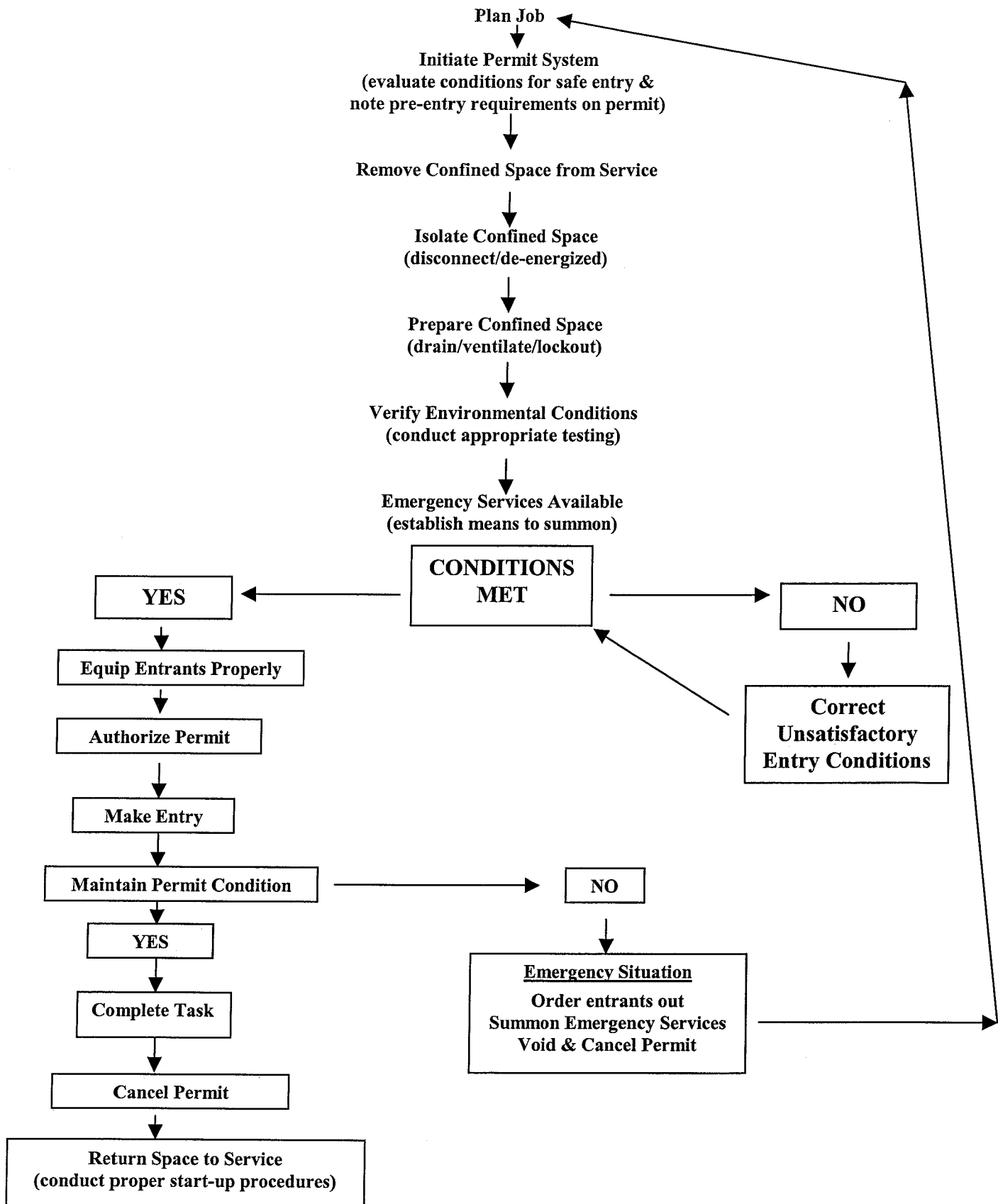
I certify the above evidence is accurate and all entry supervisors and appropriate entrants have been notified of the non-permit status of this space.

Division Head _____
(Signature)

Date _____

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SAFE OPERATING PROCEDURE FOR CONFINED SPACE ENTRY



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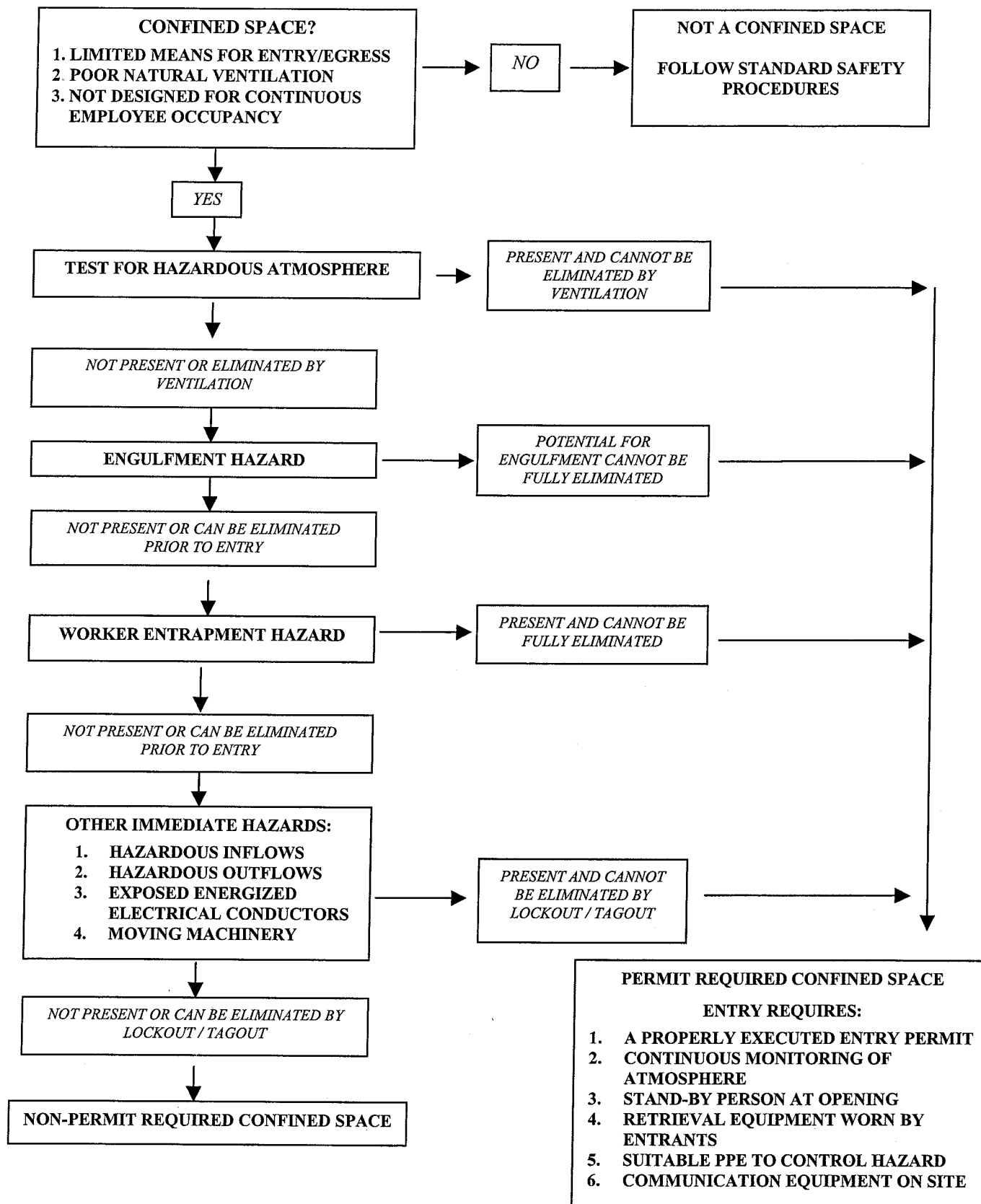
CONFINED SPACE INVENTORY

City of Bloomington Public Works Department

[illegible]

(Over)

CONFINED SPACE HAZARD EVALUATION FLOWCHART



CONFINED SPACE ENTRY EQUIPMENT LIST
City of Bloomington Public Works Department

A. Air Monitoring Equipment

Name	I.D.#	Location Stored	Calibration Date	Inspection Date
1.				
2.				
3.				
4.				

B. Ventilators/Blowers

Name	I.D.#	Location Stored
1.		
2.		
3.		
4.		

C. Communication Devices

Name	I.D.#	Location Stored
1.		
2.		
3.		
4.		

D. Fall Arrest/Retrieval Equipment

Name	I.D.#	Location Stored
1.		
2.		
3.		
4.		

CITY OF BLOOMINGTON PUBLIC WORKS

CONTRACTOR SAFETY AND HEALTH POLICY

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CONTRACTOR SAFETY & HEALTH POLICY

City of Bloomington Public Works

1.0 Purpose:

It is our policy to provide a safe place to work, to provide safe equipment, and to establish and insist upon safe practices at all times. This policy provides guidelines to be followed by contractors performing work activities on behalf of the City.

2.0 Scope:

This policy applies to all contractors at all City facilities and locations. The policy is extended to include non-company properties where contractors are used to perform work on behalf of the City.

3.0 Contractor Safety Requirements:

The City of Bloomington Public Works has established specific responsibility of each employee to follow with respect to safety rules, to perform their work safely, and to recognize the need for the safety of others.

In order to benefit our employees and operations, we believe these same responsibilities should be shared by our contractors. Therefore, we are requiring that all contractors abide by the following rules and perform the following duties:

- A. Abide by all applicable local, state, and federal safety, health, and work regulations.
- B. Abide by all City of Bloomington Public Works safety, health, and work rules.
- C. Inform all contractor employees and subcontractors of City of Bloomington Public Works safety, health, and work rules.
- D. Supervise contractor's employees and subcontractor's work to verify adherence to City of Bloomington Public Works safety, health, and work rules and government laws and regulations.
- E. Maintain minimum levels of such workers' compensation, general liability, auto liability, or other insurance as required by contract language.
- F. Immediately inform the City of Bloomington Public Works of any accident, occupational illness, or injury involving contractor employees or subcontractors which may result in time away from work or restricted work activity or which caused damage to City of Bloomington Public Works property and provide copies of their Workers' Compensation First Report of Injury.
- G. Promptly notify the City of Bloomington Public Works of any injury, death, loss, or damage to third party persons, animals, and/or property which is in any way related to the work performed under the contract, even though such occurrence

was not caused, or contributed to, by the contractor, its employees, or subcontractors.

- H. Investigate all accidents, occupational illnesses, injuries, and “near misses,” and assist the City of Bloomington Public Works employees, contractor employees, and/or subcontractors.
- I. When appropriate, furnish all equipment, materials, traffic warning and control devices, tools, and supplies necessary to perform the work in a safe, healthful, and efficient manner. If equipment is provided by the City of Bloomington Public Works for the contractor’s use, the contractor shall inspect such equipment and verify its safe condition and his ability to operate it safely and correctly.
- J. Only safe working platforms—i.e., ladders, portable working platforms, bucket trucks, etc.—shall be used by the contractor’s employees and subcontractors. Such equipment shall be used in a safe and responsible manner. Fall protection shall be used by any personnel working on aerial plant, towers, or other high places.
- K. Furnish all necessary personal protective equipment and ensure the use of such equipment by contractor employees and subcontractors when required by local, state, or federal regulations, City of Bloomington Public Works rules, and/or worksite conditions or activities.
- L. Use of City of Bloomington Public Works equipment or vehicles by contractor employees or subcontractors is prohibited. If equipment use is needed, contact the _____.
- M. Use of City of Bloomington Public Works first aid kits is prohibited. However, emergency first aid will be provided as necessary.
- N. Abide by all City of Bloomington Public Works smoking restrictions and policies.
- O. Alcoholic beverages and drugs are strictly forbidden in or on City of Bloomington Public Works property and at City project worksites.
- P. No visitors, other than contractor employees and subcontractors, are allowed in or on City of Bloomington Public Works property or at worksites without City of Bloomington Public Works approval.
- Q. The use of hazardous or toxic materials or chemicals without City of Bloomington Public Works approval is prohibited. If hazardous or toxic materials or chemicals are approved for use, leftover or residue materials or chemicals, containers, packages, or other related items shall be handled and disposed of in a manner approved by local, state, and federal regulations. The contractor shall supply the City of Bloomington Public Works with any and all Material Safety Data Sheets for all approved materials or chemicals used.

- R. The contractor's employees or subcontractors shall take proper precautions and control measures when using fume, dust, gas, or vapor-generating equipment, material or processes or when performing hot work such as cutting, welding, grinding, etc.
- S. Maintain good housekeeping practices at all times. The contractor's employees and subcontractors are responsible for the removal or proper disposal of any and all refuse or discarded material. They are also responsible for the replacement and/or reassembly of any items moved, relocated, or disassembled in the performance of the contracted work.
- T. The contractor's employees and subcontractors shall leave all "Work in Process" materials, tools, equipment, and other items in a neat and orderly fashion. The worksite shall be left in a clean and orderly condition with all equipment, materials, excavations, and facilities secure and protected against intentional or accidental intrusion by third parties.
- U. The contractor shall take every measure to protect all persons and property, including property of the City of Bloomington Public Works, from injury or damage arising out of the performance of the work. The contractor shall make such inspections, safety checks, and tests, and shall provide such equipment, personnel, and supervision as is necessary to ensure the safe performance of the work.

City of Bloomington Public Works reserves the right to terminate the contract if the contractor fails to abide by all applicable local, state, and federal safety, health, and work regulations, and/or the City of Bloomington Public Works safety, health, and work rules.

CONTRACTOR SAFETY & HEALTH FORM
City of Bloomington Public Works

City of Bloomington Public Works reserves the right to terminate the contract if the contractor fails to abide by all applicable local, state, and federal safety, health, and work regulations, and/or the City of Bloomington Public Works safety, health, and work rules.

I have received a copy of the City of Bloomington Public Works safety and health rules for contract work and accept the responsibility of informing all employees and subcontractors who are working for me of those rules. I understand the safety rules and regulations which our employees and subcontractors must comply with while working at City of Bloomington Public Works.

Contractor Company Name: _____

Contractor Representative (*printed*): _____

Contractor Representative (*signature*): _____

Title: _____

Date: _____

CITY OF BLOOMINGTON PUBLIC WORKS

CONTRACTOR SAFETY

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CONTRACTOR SAFETY

CITY OF BLOOMINGTON PUBLIC WORKS

1.0 Purpose:

The purpose of this procedure is to provide guidelines to be followed when using contractors.

2.0 Scope:

This procedure can be applied to all users of contractors at all locations. The policy is extended to include non-City properties where contractors are used to perform work on behalf of the City.

3.0 Information:

The frequent use of contractors leaves a potential weak link in the Public Works Department's safety program. That weak link involves the safety and health activities of contractors and the impact such activities, or lack of activities, can have on the City.

The potential costs, in the form of business interruptions due to accidents, work delays, property damage, and workers' compensation, are a sufficient motivation to become stricter about contractor safety. Another motivator is the potential threat of liability which also exists, both from third parties and the contractor themselves.

One course of action which is frequently taken to avoid liability and other safety-related exposures is to keep as great a distance as possible away from the contractor and their operation. This action is often based on the mistaken belief that by assuming any responsibility, the City can be held jointly liable. But shirking basic contractor safety responsibilities, either intentionally or accidentally, can actually increase the chances of being made party to a lawsuit. The City has a legal duty to correct or warn contractors about hazards that might affect contractor employees.

The "co-management" approach can lead to legal entanglements. The object is to get the contractors to work safely without directly supervising their employees. Communication is the key. It is vital to communicate safety expectations to the contractor what and let him know that their responsible is. Such communication can greatly reduce the risk of liability.

There are several measures which can be taken to help communicate the City's desires in the area of safety and health to the contractor:

- A. Make the City's emphasis on safety evident even before bids are accepted. Ask prospective contractors about their experience modification rate (safety record) and their safety program. Eliminate those with a bad track record. If the contractor is small and/or has no safety program, you can supply basic safety information to them without becoming a co-manager.

- B. Insist in the contract language that contractors follow safety rules. The contract can refer to the "Contractor Safety & Health Policy" to provide specific requirements and responsibilities. Many consultants also suggest including a shutdown provision to give you the authority to stop work or terminate the contract if safety violations occur.
- C. Orient the contractor to safety rules and hazards. Give them a tour of the worksite and explain safety procedures. Make clear to them the City's safety expectations and their responsibilities.
- D. Audit the contractor's safety performance and let them know that the City will be auditing their performance. The safety audit can take the form of a "walk-around" type of audit which can be done while supervising the overall job. Do not hesitate to push safety when necessary.

The "Contractor Safety & Health Policy," can be used to communicate the City's safety and health desires to the contractor. If desired, this policy could conceivably be modified by a company to fit their particular operation, needs, and goals. In any case, the adoption and use of this policy and its guidelines will go a long way toward strengthening a potentially weak link in a contractor's safety program.

Schedule of Materials Control 2016

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Introduction Page

Minnesota Department of Transportation Schedule of Materials Control (SMC) (Federal Aid, State Funds, County/Municipal Federal Aid Projects and State Aid Projects)

This schedule outlines the minimum sampling and testing required for most materials used in highway construction. Some items that are rarely used or materials of recent development are often covered by special provisions and may not be shown on the schedule. For more information regarding contract requirements for testing, please reference the "Standard Specifications for Construction", Specification 1603 Materials: Specifications, Samples, Tests, and Acceptance.

Laboratories performing acceptance tests for payment shall be accredited by the AASHTO Materials Reference Laboratory (AMRL) or a comparable accreditation program approved by MnDOT and the FHWA for all test procedures performed.

When sample sizes required for testing exceed 35 pounds, please submit multiple containers of the material with no individual container weighing more than 35 pounds.

Small quantities of materials may be accepted without sampling and testing. A small quantity is defined as any total quantity, for the whole project, of one material, which is smaller than the minimum quantity required for testing unless modified by the individual material items. These materials shall be from known, reliable sources, perform satisfactorily and meet the requirements for purpose intended. The inspection report (Form 02415) should include a statement to this effect and show the source. Form 2403 may be used to report small quantities of diverse materials from different sources. Form 02415 and Form 2403 (or approved revisions) are referenced in the Schedule of Materials Control for project record documentation and are required to be maintained in the project file.

Previously approved materials transferred from another project should be reported on Form 02415. The report should include: type of material, quantities involved, source, and supplier of materials. Whenever possible, include the project number for which the material was originally approved.

If Forms 02415 and 2403 are referenced by form number within the Schedule of Materials Control for materials or products received from pre-approved sources, where the field responsibility for acceptance is visual inspection and all information required to complete these forms is contained in other documents in the project file, the use of these forms becomes optional. If these forms are completed and sent to the Project Engineer by off-site inspection personnel from the district or the Office of Materials, they must be retained in the project file.

A Telephone Index is included with the Schedule giving contact information for the specialty areas if further information is required regarding the various materials. A form index is also included.

The Department maintains the Approved/Qualified Products List and the Certified Products and Services List, as well as, the Schedule of Materials Control. All are available electronically on the Office of Materials and Road Research website. www.dot.state.mn.us/materials.html

Products manufactured offsite may be pre-approved; however, final acceptance will be made at the point of incorporation, based upon review of documentation and inspection for shipping or other damage.

Contact the MnDOT District Independent Assurance Inspector when project starts to provide the proper servicing of your project.

I. Grading, Base and Reclamation Construction Items (www.dot.state.mn.us/materials/gradingandbase.html)

Pay Item Number	Test Type / Material	Spec. No.	Minimum Contractor Quality Control (QC) Testing Rate	Minimum Agency Quality Assurance (QA) Testing (See Note 1)		Minimum Companion (Split Lab) Sample (See Note 2)		Form No. (See Note 5)
				Rate	Size	Rate	Size	
(a) 2118 (b) 2211 (c) 2212 (d) 2221	1. Gradation (a) Aggregate Surfacing (b) Aggregate Base (c) Drainable Aggregate Base (d) Shoulder Base Aggregate	3138 3138 3136 3138	Production: 1/550 yd ³ (CV) Only required for Material On Hand, 1906.2	Random Sampling <ul style="list-style-type: none"> • < 280 yd³ (CV) no tests required • ≥ 280 yd³ (CV) to < 1,100 yd³ (CV) <ol style="list-style-type: none"> 1. Lot Size = Total Quantity 2. Divide lot into two equal sublots 3. Collect one random sample from each subplot 4. Review average of lot & subplot results to determine compliance • ≥ 1,100 yd³ (CV) to < 5,500 yd³ (CV) <ol style="list-style-type: none"> 1. Lot Size = Total Quantity 2. Divide Lot into four equal sublots 3. Collect one random sample from each subplot. 4. Review average of lot & subplot results to determine compliance • ≥ 5,500 yd³ (CV) <ol style="list-style-type: none"> 1. #Lots = (total bid quantity/5,500) 2. Round # Lots up to next whole number 3. Lot Size = (total bid quantity/#lots) 4. Divide each Lot into four equal sublots. 5. Collect one random sample from each subplot. 6. Review all averages of lot & subplot results to determine compliance 	30 lb.	1 per project.	30 lb.	G&B-001 G&B-002 G&B-101 G&B-104

I. Grading, Base and Reclamation Construction Items (www.dot.state.mn.us/materials/gradingandbase.html)

Pay Item Number	Test Type / Material	Spec. No.	Minimum Contractor Quality Control Testing Rate	Minimum Agency Quality Assurance (QA) Testing		Minimum Companion (Split Lab) Sample (See Note 2)		Form No. (See Note 5)
				Rate	Size	Rate	Size	
(e) 2105 2106	1. Gradation (Continued) (e) Granular Borrow/Embankment, Select Granular Borrow/Embankment, Modified Granular Borrow/Embankment & Stabilizing Aggregate	3149 & Special Provisions	1/10,000 yd ³ (CV) Only required for Material On Hand, 1906.2	1/40,000 yd ³ (CV) (See note 1)	30 lb.	1 per project.	30 lb.	G&B-001 G&B-101 G&B-104
(f) 2215	(f) Full Depth Reclamation (FDR)	Special Provisions & 3135	1/6,000 yd ² (See Note 10)	1/day	30 lb.	NA		G&B-001 G&B-003 G&B-101
(g) 2511	(g) Granular Filter	3601	One per source before delivery on project	1 per source	300 lb.	NA		G&B-001 G&B-101 G&B-104
(h) 2451 (i) 2451 (j) 2451 (k) 2451 (l) 2451 (m) 2502	(h) Granular Backfill (i) Aggregate Backfill (j) Granular Bedding (k) Aggregate Bedding (l) Coarse Filter Aggregate (m) Fine Filter Aggregate	3149	One per source before delivery on project	1 per source	30 lb.	NA		G&B-001 G&B-101 G&B-104

I. Grading, Base and Reclamation Construction Items (www.dot.state.mn.us/materials/gradingandbase.html)

Pay Item Number	Test Type / Material	Spec. No.	Minimum Contractor Quality Control Testing Rate	Minimum Agency Quality Assurance (QA) Testing		Minimum Companion (Split Lab) Sample (See Notes 2 & 3)		Form No. (See Note 5)
				Rate	Size	Rate	Size	
2105 2106 2112	2. Proctor Test (Used for optimum moisture & maximum density) Material type: Non-granular embankment and Subgrade Preparation material per 3149.2.B.1	2105 2106 2112	When QA is Specified Density, may use QA result for Target moisture When QA is NOT Specified Density: 1 per major soil type (See Notes 7 & 11) Used for optimum moisture determination	For Specified Density: 1/major soil type. For all other compaction requirements: One Contractor Companion/project (See Note 8)	50 lbs.	1 per project.	25 lb.	G&B-001 G&B-003 G&B-303
2105 2106 2112	3a. Compaction Compliance For non-granular material per 3149.2B.1 Specified Density Test (Sand Cone or other) or Light Weight Deflectometer (LWD)	2105 2106 2112		Roadway Embankment (within road core): One test/4,000 yd ³ or, one test/8,000 yd ³ (CV), if test rolled. (for material outside road core, test at Engineer's discretion) Trenches for Transverse Culverts and Abutments: 1 test per every 2 feet of fill height per 250 feet of trench length Trenches for longitudinal water-main, Storm-sewer, sanitary, and gas & retaining walls & removals: One test per 500 feet of each trench length at various depths. Subgrade Preparation One per 25 Road Stations (See note 8)		NA	NA	G&B-001 G&B-304

I. Grading, Base and Reclamation Construction Items (www.dot.state.mn.us/materials/gradingandbase.html)

Pay Item Number	Test Type / Material	Spec. No.	Minimum Contractor Quality Control Testing Rate	Minimum Agency Quality Assurance (QA) Testing Rate	Form No. (See Note 5)
(a) 2211 (b) 2221	3b. Compaction Compliance Dynamic Cone Penetration (DCP) Index Method or Light Weight Deflectometer (LWD) (a) Aggregate Base (b) Shoulder Base Aggregate	3138		1 test/500 yd ³ (CV)	G&B-001 G&B-204 G&B-601 G&B-603
(c) 2215	(c) Full Depth Reclamation (FDR)	3135		1 test/3,000 yd ²	G&B-001 G&B-205 G&B-601 G&B-603
(d) 2105 2106 2112	(d) Granular Borrow/Embankment, Select Granular Borrow/Embankment, & Modified Granular Borrow/Embankment and all other granular materials. Subgrade Preparation (for materials meeting 3149.2B1)	3149		Roadway Embankment: One test/2,000 yd ³ (CV) Or, one test/4,000 yd ³ (CV), if test rolled Trenches for Transverse Culverts and Abutments: 1 per every 2 feet of fill height per 250 feet of trench length. Trenches for longitudinal water-main, Storm-sewer, sanitary, and gas & retaining walls & removals: 1 per 500 feet of each trench length at various depths. Subgrade Preparation: 1 per 25 Road Stations.	G&B-001 G&B-203 G&B-601 G&B-602 G&B-603
(a) 2118 (b) 2211 (c) 2212 (d) 2221	4. Moisture Content Test During Compaction Needed for all compaction methods including quality compaction. (See Note 9) (a) Aggregate Surfacing (b) Aggregate Base (c) Drainable Aggregate Base (d) Shoulder Base Aggregate	3138	1/1,000 yd ³	1 per project in this category. Obtain split samples from Contractor.	G&B-001 G&B-003 G&B-105
(e) 2215	(e) Full Depth Reclamation (See Note 9)	2215	1/6,000 yd ²	1 per project in this category. Obtain split sample from Contractor.	G&B-001 G&B-003 G&B-105
(f) 2105 2106 2112	(f) All embankment materials (See Note 9) (g) Subgrade Preparation	2105, 2106 & Special Provisions	All Embankment Materials 1/10,000 yd ³ Subgrade Preparation 1 per 25 Road Stations	1 per project in this category. Obtain split sample from Contractor	

I. Grading, Base and Reclamation Construction Items (www.dot.state.mn.us/materials/gradingandbase.html)

Pay Item Number	Test Type / Material	Spec. No.	Minimum Contractor Quality Control Testing Rate	Minimum Agency Quality Assurance (QA) Testing		Form No. (See Note 5)
				Rate	Size	
2105 2106 2118 2211 2212 2221	5. Percent Crushing		1/lot, only required for Material On Hand, 1906.2	2 per source (See Notes 3 & 4)		G&B-103 G&B-104
2105 2106 2118 2206 2211 2212 2221 2451 2502	6. Aggregate Quality A: LAR, Insoluble Residue, Lithological Exam & Bitumen Content B: Percentage of Concrete, Masonry Concrete, Glass, Brick and other Objectionable Material in a Recycled Aggregate Sample	3136, 3138, 3149	1/source (See Note 6), only required for Material on Hand, 1906.2	A: 2 per source (See Notes 3, 4 & 6) B: Test at the discretion of the Engineer. See Lab Manual, Section 1209	30 lb.	G&B-104
2215	7. Depth Check Full Depth Reclamation (FDR)		1/1000 feet of machine width	1/day		G&B-003 G&B-401
2111	8. Test Rolling	Contractor perform test rolling at the top of all subgrade and granular layers not meeting the requirements of 3149.2B2 (2105 & 2106), base layers (2211), and non-stabilized FDR (2215). Minimum 12' width and 300' length. Agency to observe test rolling.				

General Notes: Sampling and Testing Procedures are found in the Grading and Base Manual in Section 5-692.200. Obtain all gradation, quality and crushing samples after spreading and before compaction.

Modify testing and sampling protocol for increases in Plan quantities as follows:

Time Plan Quantity Increased	Testing and Sampling
Before Collection of first sample.	Reorder sampling to account for additional quantity.
After Collection of first sample, but before sampling is complete.	Complete testing of current lot, and then reorder the sampling using the remaining quantity.
After collection of all original Plan quantity samples.	Order sampling for additional quantity.

I. Grading, Base and Reclamation Construction Items (www.dot.state.mn.us/materials/gradingandbase.html)

Note 1: Samples are not required for 280 yd³ (CV) (500 tons) or less. Report small quantities on Form 02415 or Form 2403.
<http://www.dot.state.mn.us/const/tools/forms.html>.

Note 2: Laboratories with AMRL accreditation that perform Agency Assurance testing are not required to submit companion samples. When Quality Assurance testing is not performed in an AMRL accredited facility, obtain the Companion/Lab sample as a split sample from the first Agency Quality Assurance sample, and include the gradation results on the sample card.

Note 3: Companion gradation and proctor, and Quality Assurance crushing and aggregate quality samples are not required for 550 yd³ (CV) (1,000 tons) or less.

Note 4:

- Carbonate aggregates require 50 lb. samples for lab testing.
- Submit the initial aggregate quality and crushing sample from the first day's production; the Engineer may elect to sample from the stockpile.
- The crushing test will not be required when the material is crushed from a quarry.
- A second test is required, when the first test fails. Average both tests to determine compliance, when two tests are performed.
- Not all quality and crushing tests are required for each material, see specifications
- Use the table below as a **guideline, determination of specific required tests is through the Specifications and/or the Special Provisions.**

Note 5: Forms are available on the Grading & Base website at: <http://www.dot.state.mn.us/materials/gradingandbase.html>

Note 6: Use the Centrifuge Method (MnDOT Lab. Manual Method 1852) to determine bitumen content.

Note 7: Major soil types are defined in the Triaxial Chart located in the Grading and Base Manual.

Note 8: Required only for specified density.

Note 9: Required during Compaction. For Quality Compaction of Shoulder Aggregate (2118 or 2221), the Engineer may replace the moisture testing requirement with time stamped photo documentation of water being applied.

Note 10: Provide gradation test results to the Engineer within the first 500 feet (150 m) of production and within 500 feet (150 m) after a failing gradation.

Note 11: The Contractor may use a one point Proctor, or the estimated optimum moisture content formula for granular (Form G&B- 305) to determine the optimum moisture.

I. Grading, Base and Reclamation Construction Items (www.dot.state.mn.us/materials/gradingandbase.html)

Table: Guidelines for Required Crushing and Aggregate Quality Tests					
Material	Crushing	Bitumen Content	LAR	Insoluble Residue	Lithological Exam & Shale Float Test
3136 Drainable Bases	Yes. Not required for quarried sources.	Not applicable	Yes	Yes, if source from a carbonate quarry.	Yes, when not from quarried source.
3138 Aggregate for Surface and Base	Yes for Class 5, 5Q and 6. Test waived if material contains recycled at twice the minimum crushing requirement. Not required for quarried sources.	Yes, if it contains Bitumen.	Yes, if source is carbonate quarry and does not contain bitumen.	Yes, if source from a carbonate quarry, and does not contain bitumen.	Yes for Class 3, 4, 5, 5Q and 6, when not from quarried rock, and does not contain bitumen.
3149 Granular Material *	Yes for Stabilizing Aggregate, Fine Aggregate Bedding and Medium Filter Aggregate. Test waived if material contains recycled at twice the minimum crushing requirement. Not required for quarried sources.	Yes, if it contains Bitumen	Not applicable	Yes, if source from a carbonate quarry, and does not contain bitumen	Yes for Medium Filter Aggregate
<p>* Note for 3149.2D.2 Granular Materials - Structural Backfill, perform all tests required of 3137.2B3, shear angle test (AASHTO T236) and Proctor.</p> <p>Perform test procedure for determining the amount of concrete, masonry concrete, glass, brick and other objectionable material in a recycled aggregate sample when sample appears to contain more material than allowed by specification. See Lab Manual; Section 1209.</p>					

Grading and Base Conversion from Volume (CV) to Weight

If possible, always perform a proctor for the material in question to obtain a conversion factor.

Only use the following conversion factor for materials meeting specifications 3138 or 3149 Stabilizing Aggregate. Material may be composed of crushed limestone, granite, gneiss, quartzite, recycled materials or natural gravel. **Do not** use the conversion factor for crushed basalt, taconite, or other heavy or light-weight aggregates. For other materials or gradations contact the Grading and Base Unit.

To convert from volume to weight use the following: **1 yd³ (CV) = 1.8 tons.**

See the Grading and Base Manual Section .430 for further explanation.

I. Grading, Base and Reclamation Construction Items (www.dot.state.mn.us/materials/gradingandbase.html)

Contractor Quality Control Tests Requirements for Cold in Place Recycling (CIR) & Stabilized Full Depth Reclamation (SFDR), Specification 2215		
Test Name	Rate	Method/Location
Gradation SFDR (Simple) Pre-Ground Un-Stabilized Material	1 per mile	G&B Manual .215 & Form G&B-101 Report sieves 3" & 2"
Gradation (Entire) (Material to be Stabilized)	One per day, give split sample to Engineer	G&B Manual .215 & Form G&B-101 Report sieves 2", 1.5", 1.25", 1", ¾", 3/8", #4, #10 & #30.
Gradation (Simple) (Material to be Stabilized)	1 per mile for SFDR and CIR without top size screening 4 per mile for CIR with machines with top size screen.	G&B Manual .215 & .293, Form G&B-101 Report only sieves 2" and 1.5" for SFDR 1.5" and 1.25" for CIR
Depth Check Unstabilized and Stabilized	One per 1,000 feet per machine width for each vertical machine face for initial pulverization and stabilization	G&B Manual .284 and Form G&B- 401
Penetration Index (DCP) – SFDR Only Unstabilized	One per ½ lane mile	G&B Manual .255 & Form G&B-205
Calibrate: mineral stabilizing agent application rate	Once using design rate per vane feeder	G&B Manual .286 or .287
Moisture: Before Injecting Liquid Bituminous Material	One per 5,000 feet of lane of daily anticipated SFDR & one after the addition of water by Contractor or rain or mechanical drying out (disking, etc.).	G&B Manual .281 & Form G&B-105
Yield: Mineral Stabilizing Agent Liquid Bituminous Material	1 per transport 1 per transport	G&B Manual .286 & .287 & Forms G&B 402 & 403
Compaction (Nuclear Density) (SFDR Stabilized and CIR)	1 per 500 feet of lane width (<i>See Note Below</i>)	Grading & Base manual .282
Control Strip (SFDR Stabilized and CIR)	Minimum once per project	
Foaming Asphalt Checks Expansion Ratio & Half Life	1 per load	Grading & Base Manual .285
Note: the Engineer may require a Contractor to perform additional Nuclear Density tests in areas that the Engineer believes are failing density requirements.		

Correlate the nuclear gauge's dry measurement density by direct moisture measurement (microwave oven or equivalent).

I. Grading, Base and Reclamation Construction Items (www.dot.state.mn.us/materials/gradingandbase.html)

Agency Quality Assurance Tests Requirements for Cold in-Place Recycling and Stabilized Full Depth Reclamation, Specification 2215		
Test Name	Rate	Method/Location
Gradation SFDR Pre-Ground un-stabilized Material	Run gradation at the discretion of the Engineer	G&B Manual .215 & Form G&B-101 Report only sieves 3" & 2"
Gradation SFDR Material to be Stabilized (entire)	Run gradation at the discretion of the Engineer	G&B Manual .215 & Form G&B-101 Report sieves 2", 1.5", 1.25", 1", ¾", 3/8", #4, #10, #40 & #200.
Gradation SFDR Material to be Stabilized (simple)	Run gradation at the discretion of the Engineer	G&B Manual .215 & Form G&B-101 Report sieves 2" & 1.5" for SFDR 1.5 and 1.25" for CIR
Depth Check Unstabilized SFDR Only and Stabilized SFDR and CIR	One per day	G&B Manual .284 and Form G&B-401
Penetration Index (DCP) Unstabilized	1 per lane mile	Grading & Base Manual .255 & Form G&B-205
Calibration of the mineral stabilizing agent application rate	Observe the Contractor	
Yield: Mineral Stabilizing Agent and Liquid Bituminous Material	1 per day each	G&B Manual .286 & .287 Forms G&B-402 & 403
Compaction (Nuclear Density) (CIR and SFDR Stabilized)	Observe the Contractor	
Control Strip (Stabilized)	Observe the Contractor	
Bituminous Material Samples	First load, then 1 per 50,000 gal	one quart each sample
Mineral Stabilizing Agent Sampling	1 sample	
Foamed Asphalt Checks Expansion Ratio & Half Life	Observe the Contractor Once per day	G&B Manual .285
Moisture (Stabilized) – Before Placement of Next Layer during curing	Three daily after Compaction	Grading & Base Manual

II. Bituminous Construction Items for Specification 2360

Note: Projects with bituminous tonnage less than or equal to 300 tons (272 metric tons) per day may be accepted on a small quantity basis at the discretion of the Engineer. Retain Form 02415 or Form 2403 in Project File.

(All plant mixed asphalt from Certified Plants)

DEFINITIONS

SAMPLE TYPE	DESCRIPTION	SAMPLE LOCATION DETERMINED BY	SAMPLE TAKEN BY	SAMPLE TESTED BY
QC	Quality Control Testing performed by Contractor. Also known as Process Control Testing.	Contractor	Contractor	Contractor
QA	Quality Assurance Testing performed by the Agency. This test is performed on a companion sample to the Contractor's QC sample.	Contractor Contractor (mixture) Agency (density cores)	Contractor	Agency
Verification	A sample to assure compliance of the Contractor's Quality Control program. The results shall be included as part of the QA Testing Program.	Agency	Agency	Agency
Verification Companion	A companion sample to the Agency's Verification sample provided to the Contractor. The Contractor <u>is required</u> to test this sample. The results <u>shall be used</u> as part of the QC program.	Agency	Agency	Contractor
IAST	The Independent Assurance Sampling and Testing assures testers are sampling and testing properly and that equipment is calibrated correctly.	Agency	Contractor or Agency	Contractor or Agency

I. Bituminous Construction Items for Specification 2360 (cont.)**A. Pre-Production Sampling and Testing for Specification 2360 Plant Mixed Asphalt****Minimum Sample Sizes:****Quality Sample Size for Lab Submittal:**

Plus #4 aggregate sample for quality testing and Percent Crushing	80 lb. (35 kg)
Minus #4 aggregate for quality testing	35 lb. (15 kg)
Bituminous mixture plus 2 Gyratory specimens for volumetric testing	80 lb. (35 kg)
Bituminous mixture for TSR testing (option A)	80 lb. (35 kg)
Bituminous mixture for TSR testing plus 6 Gyratory specimens (option B)	20 lb. (10 kg)
Mineral filler.	2 lb. (1 kg)
RAP for Quality Testing	80 lb. (35 kg)
RAS (shingles) for Gradation and Quality Testing	10 lb. (5 kg)
Asphalt Binder	1 qt. (1L)

All aggregates and mixtures will be split according to G&B Manual 5-692.141, "Quartering Method of Sample Size Reduction"

Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing	Agency Testing	Form No.
2360	Bituminous Mix Design (QC/QA)	2360	Contractor submits Mix Design Option 1 or Option 2	Option 1- Laboratory Mix Design: In addition to reviewing the Trial Mix data (JMF), test Contractor's mixture (at optimum asphalt content). Also, evaluate TSR per 2360.2E5a(3). Option 2- Laboratory Mix Design: Review submitted Mix data only.	Approved Mix Design Report
2360	Aggregate Quality Testing (QA only)	2360	Provide 24 hour notice of intent to sample aggregates for quality testing. Agency has the option to monitor sampling. Submits to the Bituminous Engineer or the District Materials Engineer one (1) sample of each non-asphaltic aggregate type or class per source per year. Also submit the asphaltic aggregate material when the mixture contains RAP or RAS. Provide documentation that of all RAS /TOSS (Tear Off Shingle) material is from a MPCA certified supplier.	Test as directed by the Bituminous Engineer or the District Materials Engineer.	Test Report
2360	Mineral Filler (QA only)	2360	One (1) sample per shipment of 50 tons (45 metric tons) or less, unless previously inspected.	Testing as directed by the Engineer or the District Materials Engineer.	Test Report
2360	Additives (QA Only)	2360	Sample blended asphalt binder and additive, 1 qt. (1 L). Sample first shipment of each type of material. Then submit one sample per 250,000 gal. (1,000 m3) (approximately 1,000 ton).	Testing as directed by the Engineer or the Chemical Laboratory Director.	Test report

II. Bituminous Construction Items for Specification 2360 (cont.)**B. BITUMINOUS PRODUCTION for Specification 2360*****Verification Testing**

Verification Companion testing from Agency split sample is required to be performed and used as the next QC sample that day.

SAMPLE SIZE:	Aggregate for Gradation (QC/QA)	35 lb. (15 kg)
	Plus #4 Aggregate Type for Quality Testing	80 lb. (35 kg) for each source
	Minus #4 Aggregate Type for Quality Testing	35 lb. (15 kg) for each source
	RAP material for Quality Testing	80 lb. (35 kg) for each source
	RAS (Shingles) for Processed Gradation and Quality Testing	10 lb. (5 kg)
	Mixture Properties (QC/QA) 3 full 6" by 12" cylinder molds for QA	65 lb. (30 kg)
	TSR (QC/QA) 4 full 6" by 12" cylinder molds for QA	90 lb. (40 kg)
	Aggregate Specific Gravity (QC/QA)	90 lb. (40 kg)
	Asphalt Binder (QA)	1 qt. (1 L)
	Emulsified Asphalt (QA)	½ gal (2 L)

All aggregates and mixtures will be split according to G&B Manual 5-692.141, "Quartering Method of Sample Size Reduction"

Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing	Agency Testing	Form No.
2360	Aggregate Quality Testing Including aggregate specific gravity (QA Only)	2360		Take additional samples when aggregate qualities approach specification limits or when material variation is observed, take additional field samples as requested by Project Engineer. Take additional samples when material variation is observed in RAP or RAS take additional field samples as requested by Project Engineer.	Lab report
2360	Moisture Content in Mixture (QC/QA) Lab Manual 1855	2360	Sample and test as directed by the Engineer.		Test Summary Sheet (TSS)

II. Bituminous Construction Items for Specification 2360 (cont.)

Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing	Agency Testing	Form No.
2360	Asphalt Binder Content, % AC, ADD AC, AC/Total AC ratio (QC/QA, Verification*) Lab Manual 1851, 1852, 1853	2360	(a) Incinerator Oven MnDOT Lab Manual 1853 (b) Chemical Extraction MnDOT Lab Manual 1851 or 1852 REMARKS: Contractor selects one method at the beginning of the project (when material is submitted for Trial Mix Review) and use that method for the entire project. The Contractor and Engineer may agree to change test procedures during the construction of the Project. See Note #1, Note #2 & Note #4. A computer file of the plant's control settings is required every 20 minutes of production.	The inspector will witness all QC mixture sampling and take possession of their QA-Verification split of this sample immediately after the sample is split. At the end of the day randomly submit one of the QA-Verification splits to the District Lab for testing. Additional verification samples can be taken at any time or location. When additional verification samples are taken the contractor must test the Verification companion split of this sample and include the results in the QC program (Test Summary Sheet). The Agency reviews the computer files of the plant's control settings. REMARKS: See Note # 3 & Note #7	TSS
2360	Mixture Properties (QC/QA, Verification*) Maximum Specific Gravity Lab Manual 1807	2360	Contractor performs test 1807 REMARKS: See Note #1, Note #2, & Note #4.	The inspector will witness all QC mixture sampling and take possession of their QA-Verification split of this sample immediately after the sample is split. At the end of the day randomly submit one of the QA-Verification splits to the District Lab for testing. Additional verification samples can be taken at any time or location. When additional verification samples are taken the contractor must test the Verification companion split of this sample and include the results in the QC program (Test Summary Sheet). REMARKS: Note # 3 & Note #7	TSS
2360	Mixture Properties (QC/QA, Verification*) Gyratory Bulk Specific Gravity - 2 Specimen Average, Lab Manual 1806, 1820	2360	Contractor performs test 1806 REMARKS: See Note #1, Note #2, & Note #6.	The inspector will witness all QC mixture sampling and take possession of their QA-Verification split of this sample immediately after the sample is split. At the end of the day randomly submit one of the QA-Verification splits to the District Lab for testing. Additional verification samples can be taken at any time or location. When additional verification samples are taken the contractor must test the Verification companion split of this sample and include the results in the QC program (Test Summary Sheet). REMARKS: See Note #3 & Note #7.	TSS

II. Bituminous Construction Items for Specification 2360 (cont.)

Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing	Agency Testing	Form No.
2360	Mixture Properties (QC/QA, Verification*) Adjusted Asphalt Film Thickness (AFT), Air Voids, Fines to effective, CAA, FAA and Gradation. Lab Manual 1203, 1206, 1214, 1808, 1854	2360	<p>Verification Companion testing from Agency split sample is required and used as a QC sample once per day.</p> <p>Bituminous mixes composed entirely of Class A and/or Class B aggregates are not required to be tested for CAA (Coarse Aggregate Angularity).</p> <p>REMARKS: See Note #1, Note #2, Note #4, Note #5, & Note #6.</p> <p>The production start-up testing rates for the CAA and FAA are 1 per 1000 tons for the first 2000 tons. After 2000 tons, 2 test per day for at least two days. Then CAA and FAA at a rate of 1 test per week, if the CAA and FAA exceed the requirements by 8% and 5% respectively, otherwise test daily.</p>	<p>The inspector will witness all QC mixture sampling and take possession of their QA-Verification split of this sample immediately after the sample is split. At the end of the day randomly submit one of the QA-Verification splits to the District Lab for testing. Additional verification samples can be taken at any time or location. When additional verification samples are taken the contractor must test the Verification companion split of this sample and include the results in the QC program (Test Summary Sheet).</p> <p>REMARKS: See Note # 3 & Note #7.</p>	TSS
2360	Core Density and Thickness Lab manual 1810	2360	<p>Contractor cuts two cores at each location. In the laboratory, measure, and saw cores into separate lifts. Sawing of cores into separate lifts is required.</p> <p>Schedule the approximate time of testing during normal project work hours so the Agency may observe and record the saturated surface dry and immersed weight of the cores.</p> <p>A completed Core Density Incentive/Disincentive worksheet is to be submitted to the Laboratory (Agency field or District/Division).</p>	<p>Complete core stationing spreadsheet to determine core locations and then mark all coring locations on the pavement.</p> <p>Once the Contractor has measured and sawed the Agency companion cores transport them to the Agency field lab or District Lab for testing. Transport the cores as soon as possible to the testing lab taking care to prevent damage due to improper handling or exposure to heat.</p> <p>Selects at least one of the two companion cores per lot to test for verification.</p> <p>REMARKS: Note #3 & Note #6.</p>	<p>Core Density Worksheet</p> <p>Core Density Incentive/Disincentive worksheet.</p>
2360	Tensile Strength Ratio (T.S.R.) (QC/QA) Lab Manual 1813	2360	Sample as directed by the Engineer. When testing is required, complete testing within 72 hours after the sample is taken.	Test as directed by the Engineer. When testing is required, complete testing within 72 hours after the sample is taken.	TSR Worksheet

II. Bituminous Construction Items for Specification 2360 (cont.)**C. BITUMINOUS MATERIALS for Specification 2360**

Only Bituminous Materials from Certified Sources are allowed for use. The most current list of Certified Sources: <http://www.dot.state.mn.us/products/index.html>

Minimum Sample Sizes:**Quality Sample Size for Lab Submittal:**

Asphalt Binder (QA)/Cutback Asphalt (QA)

1qt (1 L) Metal can with pressure fit lid

Emulsified Asphalt (QA)

½ gal (2 L) plastic

Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing	Agency Testing	Form No.
2360	Asphalt Binder (QA only)	3151.2	<p><u>Asphalt Supplier</u> QC testing is the responsibility of the bituminous material supplier as part of the Combined State Binder Certification program.</p> <p><u>During Asphalt Mixture Production</u> Obtain asphalt binder samples from a sampling valve located between the pump and the drum. Sample each type of asphalt binder used in mixture production after 50 tons of mixture has been produced, then sample at a rate of one per 250,000 gal [1,000,000 L]. A minimum of 1 gallon of binder must be drawn and wasted from the sampling valve before the actual sample is drawn. For batch plants, obtain the asphalt binder sample from the weigh pod. Provide asphalt binder sample in clean one L (1 qt.) steel container. The Inspector will monitor the sampling the Contractor performs.</p>	<p><u>Asphalt Supplier</u> Random sampling of bituminous material at the asphalt supplier is discussed in the Combined State Binder Certification program arranged by the MnDOT Chemical Laboratory.</p> <p><u>During Asphalt Mixture Production</u> Observe contractor personnel taking sample from sampling valve and submit to MnDOT Chemical Lab</p>	2413 Asphalt Sample Identification Card
2355 2356 2357	Emulsified Asphalt (QA only)	3151.2	<p>QC testing is the responsibility of the bituminous material supplier as part of the Combined State Binder Certification program.</p> <p><u>Tack Coat</u> During mixture production the Contractor will sample first shipment, then submit one sample per 50,000 gal (200,000 L). Sample emulsified asphalt in clean ½ gal (2 L) plastic container with wide screw top and send to MnDOT Chemical Lab within 7 days of sampling. Sample all emulsified asphalt from the distributor.</p>	<p><u>Asphalt Supplier</u> Random sampling of bituminous material at the asphalt supplier is discussed in the Combined State Binder Certification program arranged by the MnDOT Chemical Laboratory.</p> <p><u>Tack Coat</u> Observe contractor personnel taking sample from the distributor and submit to MnDOT Chemical Lab.</p>	2413 Asphalt Sample Identification Card

II. Bituminous Construction Items for Specification 2360 (cont.)

Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing	Agency Testing	Form No.
2357 2358	Cutback Asphalt (QA only)	3151.2	<p>QC testing is the responsibility of the bituminous material supplier as part of the Combined State Binder Certification program.</p> <p><u>Tack Coat</u> During mixture production the Contractor will sample first shipment, then submit one sample per 50,000 gal (200,000 L). Sample emulsified asphalt in clean ½ gal (2 L) plastic container with wide screw top and send to MnDOT Chemical Lab within 7 days of sampling. Sample all emulsified asphalt from the distributor.</p>	<p><u>Asphalt Supplier</u> Random sampling of bituminous material at the asphalt supplier is discussed in the Combined State Binder Certification program arranged by the MnDOT Chemical Laboratory.</p> <p><u>Tack Coat</u> Observe contractor personnel taking sample from the distributor. Cutback Asphalt should only be used in cold temperature applications with the Engineer's approval. Contact Bituminous Engineering Unit for cold temperature application guidelines.</p>	2413 Asphalt Sample Identification Card

Note #1 All QA test samples shall be from split samples.

If a member of the monitoring team observes the Contractor Test, note and sign under remarks.

The Project Engineer is responsible for:

- 1.) Reviewing control charts & Test summary sheets for accuracy and completeness,
- 2.) Checking sampling and testing procedures,
- 3.) Discussing QC problems with the Contractor,
- 4.) Obtaining Verification Samples

Note #2 For Mixture Quality Management, acceptance will be based on Contractor's test results as verified by MnDOT test results.

Note #3 When a member of a monitoring team observes the Contractor test, note and sign under remarks.

Note #4

How to calculate the number of tests per day	Production Start-up testing rates (first 2000 tons of production)	Production testing rates (after 2,000 tons of mixture produced)
Divide daily tonnage by 500 and round up to next whole number	1 test/ 500 tons	
Divide daily tonnage by 1000 and round up to next whole number		1 test/ 1000 tons

Note #5 MnDOT projects will require the calculated Adjusted Asphalt Film Thickness (AFT). VMA will still be calculated for informational purposes, but will not be used for acceptance criteria. The adjusted AFT will be calculated each time a gradation test is required.

Note #6 Random number generation and determination of random sample location shall be consistent with the MnDOT Bituminous Manual Section 5-693.7 Table A or Section 5 of ASTM D3665. The Engineer may approve alternate methods of random number generation.

Note #7 QA samples retained for 10 calendar days and tested, if needed.

III. Construction Items for Bituminous Specialty Items include the following:

- 2363 Permeable Asphalt Stabilized Stress Relief Course (PASSRC) and Permeable Asphalt Stabilized Base (PASB)
- 2354 Micro-Surfacing
- 2355 Bituminous Fog Seal
- 2356 Bituminous Seal Coat and Bituminous Underseal Special Provision
- 2356 Otta Seal
- 2353 Ultra-Thin Bonded Wearing Course (UTBWC)
- 2357 Bituminous Tack Coat
- 2365 Stone Matrix Asphalt (SMA)

All aggregates and mixtures will be split according to G&B Manual 5-692.141, "Quartering Method of Sample Size Reduction"

Only Bituminous Materials from Certified Sources are allowed for use. The most current list of Certified Sources:
<http://www.dot.state.mn.us/products/index.html>

SAMPLE TYPE	DESCRIPTION	SAMPLE LOCATION DETERMINED BY	SAMPLE TAKEN BY	SAMPLE TESTED BY
QC	Quality Control Testing performed by Contractor. Also known as Process Control Testing.	Contractor	Contractor	Contractor
QA	Quality Assurance Testing performed by the Agency. This test is performed on a companion sample to the Contractor's QC sample.	Contractor Contractor (mixture) Agency (density cores)	Contractor	Agency
Verification	A sample to assure compliance of the Contractor's Quality Control program. The results shall be included as part of the QA Testing Program.	Agency	Agency	Agency
Verification Companion	A companion sample to the Agency's Verification sample provided to the Contractor. The Contractor <u>is required</u> to test this sample. The results <u>shall be used</u> as part of the QC program.	Agency	Agency	Contractor
IAST	The Independent Assurance Sampling and Testing assures testers are sampling and testing properly and that equipment is calibrated correctly.	Agency	Contractor or Agency	Contractor or Agency

III. Construction Items for Bituminous Specialty Items (cont.)

Pay Item Number	Test Type	Material Spec. No.	Minimum Contractor Quality Control Testing Rate Minimum Sample Size	Minimum Agency QA/Verification (Acceptance)	Form No.
(a) 2363 (b) 2363	1. Mix Design (Pre-Production) (a) PASSRC (b) PASB	2363	Complete 1 Job Mix Formula (gradation blend only) per mix Submit to agency: 100 lbs. each coarse agg., 35 lbs. each fine agg. & 4 qt. asphalt binder	Agency Performs Mix Design	Approved Mix Design Report
(c) 2354	(c) Micro-Surfacing	3139.5	Complete one mix design per aggregate source. See specification. Submit to Agency: 150 lbs. aggregate	Review Submitted Mix Design. Perform gradation and sand equivalence test from submitted sample. (See Notes 1 & 5)	Approved Mix Design Report
(d) 2356	(d) Bituminous Seal Coat and Bituminous Underseal	2356	At least two weeks before beginning construction complete 1 design per mix and provide information to Engineer. See 2356.3 for failing or out of tolerance results. Submit to Agency: 150 lbs. aggregate	Review and verify submitted Mix Design by performing gradation and quality tests per Table 3127-1 & Table 3127-2. Gradations and quality tests must meet requirements and tolerances, see 2356.3 for failures. (See Note 5)	
(e) 2353	(e) UTBWC	2353 UTBWC	Complete and submit 1 design per mix	Review Submitted Mix Design	Approved Mix Design Report
(f) 2365	(f) SMA	2365 SMA	Complete 1 design per mix Submit to Agency: 80 lb. (35 kg) - bituminous mixture plus 6 Gyratory specimens for TSR testing. 150lbs +4 aggregate from JMF blend for VCA 80 lbs. each coarse agg. & 30 lbs. each fine agg. for quality testing	Review & verify Submitted Mix Design Test as directed by the Engineer	Approved Mix Design Report
(a) 2363 (b) 2363	2. Production Gradation (a) PASSRC (b) PASB Lab manual 1202, 1203	2363	One per 1,000 ton with a minimum of one per day Submit to Agency: 35 lbs. Note # 2	1/day	Test Report
(c) 2354	(c) Micro-Surfacing Lab manual 1202, 1203	2354	Stockpile: 1/1,500 tons (min. 1/ day) Machine Hopper: 1/500 tons (min. 1/day) Submit to Agency: 30 lbs.	1 at time of production	Test Report

III. Construction Items for Bituminous Specialty Items (cont.)

Pay Item Number	Test Type	Material Spec. No.	Minimum Contractor Quality Control Testing Rate Minimum Sample Size	Minimum Agency QA/Verification (Acceptance)	Form No.
(d) 2356 (e) 2356	(d) Bituminous Seal Coat and Bituminous Underseal (e) Otta Seal Lab manual 1202, 1203	2356	Stockpile: 1/1,500 tons (min. 1/ day) Placement: Chip Spreader Hopper: 1/day Submit to Agency : 30 lbs. from Hopper See 2356.3 for failing or out of tolerance QC or QA results.	Bituminous Seal Coat and Bituminous Underseal: Stockpile: 1 prior to project beginning. Placement: one/day obtained from Contractor's split sample from Chip Spreader Hopper. All gradations must meet Table 3127-1 requirements and must be within mix design tolerance. See 2356.3 for failing or out of tolerance QC or QA results. Otta Seal: 1/day	Test Report
(a) 2363 (b) 2363	3. Production % Crushing (CAA) (a) PASSRC (b) PASB Lab manual 1214	2363	One per 1,000 with a minimum one per day Submit to Agency: 35 lbs. from Belt	1/day	Test Report
(a) 2354	4. Moisture (In Aggregate) (a) Micro-Surfacing Grading & Base manual, 5-692.245.B	2354	Machine Hopper: 1/500 tons (min. 3/day) Submit to Agency: 2 lbs.	1/day	Test Report
(a) 2354	5. Sand Equivalence (a) Micro-Surfacing AASHTO T 176	2354	1/day	1/project from submitted Mix Design sample at Pre-Production	Test Report
(a) 2356	6. Quality Tests (a) Bituminous Seal Coat and Bituminous Underseal Lab Manual 1223	2356	Production: Perform daily flakiness index test, obtain sample from first load. Submit split sample to Agency: 30 lbs. See 2356.3 for failing QC or QA results.	Stockpile: Perform Flakiness Index test and additional quality tests from Table 3127-2 at Engineer's discretion. Production: Perform daily quality tests per Table 3127-2, by discretion of Engineer. See 2356.3 for failing results.	Test Report
(a) 2353	7. Bituminous Mixture Tests (a) UTBWC Lab Manual 1203, 1807, 1852, 1853, 1854	2353 UTBWC	Tests: % AC, Gradation, Max Gravity, Adjusted AFT Rate: (1/300 tons, min. 1 per day) Note #3: Submit to Agency: 20 lbs. (1 cylinder from truck box)	1 per day	TSS

III. Construction Items for Bituminous Specialty Items (cont.)

Pay Item Number	Test type	Spec. No.	Minimum Contractor Quality Control Testing Rate Minimum Sample Size	Minimum Agency QA/Verification (Acceptance)	Form
(b) 2363	(b) PASSRC, PASB Bit Manual	3151	Test: Asphalt spot check Rate: minimum one per day		Test Report
c) 2365	(c) SMA Lab Manual 1203,1204, 1205, 1211, 1214, 1806, 1807, 1808, 1813, 1853, 1854, 1855, AI SP-2 AASHTO T305	2365 SMA	Tests: % AC, Gradation, Max Gravity, Bulk Gravity, Voids, VMA, CAA, Draindown, voids in coarse aggregate (VCA) fines/effective asphalt. Rate: (1/1000 tons, min. 1 per day) Aggregate sp. gravity, mix moisture content to be tested as directed by the Engineer See Note: #3 Submit companion 1 per day to agency: 65 lb. (30 kg) 3 full 6" by 12" cylinder molds	Tests: % AC, Gradation, Max Gravity, Bulk Gravity, Voids, VMA, CAA, voids in coarse aggregate (VCA) fines/effective asphalt. See Note # 3 & Note #4	TSS
(b) 2353	8. Asphalt Binder (b) UTBWC	2353 UTBWC 3151	QC testing is the responsibility of the bituminous material supplier. Random sampling is arranged by the MnDOT Chemical Laboratory. Asphalt Binder: First load, then 1/250,000 gal. 1 qt. Emulsified Asphalt: First load, then 1/50,000 gal. ½ gal*	Observe contractor personnel taking sample from sampling valve and submit to MnDOT Chemical Lab.	Test Report
(c) 2354 (d) 2356 (e) 2356 (f) 2357	(c) Micro-Surfacing (d) Bituminous Seal Coat and Bituminous Underseal (e) Otta Seal (f) Bituminous Tack Coat	2354, 2356, 3151	QC testing is the responsibility of the bituminous material supplier. Random sampling is arranged by the MnDOT Chemical Laboratory.	First load, then 1 / 50,000 gal. ½ gal*	Test Report
(g) 2363 (h) 2365	(g) PASSRC, PASB (h) SMA	3151, 2365 SMA	QC testing is the responsibility of the bituminous material supplier. Random sampling is arranged by the MnDOT Chemical Laboratory. Asphalt Binder (1 qt.): First load, then 1/250,000 gal. Note: SMA to be test as in Section C. BITUMINOUS MATERIALS for Specification 2365	Observe contractor personnel taking sample and submit to MnDOT Chemical Lab. Note: SMA to be test as in Section C. BITUMINOUS MATERIALS for Specification 2365.	Test Report

III. Construction Items for Bituminous Specialty Items (Cont.)

Pay Item Number	Test type	Spec. No.	Minimum Contractor Quality Control Testing Rate Minimum Sample Size	Minimum Agency QA/Verification (Acceptance)	Form
(a) 2354	9. Asphalt Binder Application Rate (a) Micro-Surfacing	2354	Verify Application rate 3/day	Verify Application rate 1/day	
(b) 2355 (c) 2356 (d) 2356 (e) 2357	(b) Fog Seal (c) Bituminous Seal Coat and Bituminous Underseal (d) Otta Seal (e) Bit Tack Coat	2355, 2356, 2357	Verify Application rate 1/day	Verify Application rate 1/day	21841-02, found on construction tools website

***Use plastic containers for Emulsified Asphalt Samples. Send to MnDOT Chemical Lab within 7 days of sampling.**

Note 1: Agency will test at their discretion.

Note 2: Run test on gradation sample taken from aggregate belt

Note 3: TSR testing on production mixture is at the discretion of the Engineer.

Note 4: Agency is not required to run draindown testing on QA/Verification samples.

Note 5: Submit copy of mix design to Project Engineer and copy Grading and Base Engineer.

IV. Concrete Construction Items (www.dot.state.mn.us/materials/concrete.html)

The testing rates shown in this Schedule of Materials Control are **minimums**. Take as many tests as necessary to ensure quality concrete.

All samples shall be taken in a random manner using an appropriate number generator.

All field samples shall be taken at the point of placement unless otherwise allowed by the Engineer.

It is recommended that the Agency Plant Monitor be present during critical pours, such as superstructure or paving concrete (i.e. 3A21, S mixes, JMF mixes).

If any field test fails, reject the concrete or if the Producer makes adjustments to the load to meet requirements, record the adjustments on the Certificate of Compliance and the Weekly Concrete Report. Retest the load and record the adjusted test results. Make sure the next load is tested before it gets into the work.

If batching adjustments are made at the plant, test the adjusted load, before it gets into the work. Continue to test the concrete when test results are inconsistent or marginal.

The first load of concrete for any pour must have passing air content and slump results, prior to placing.

Material not meeting requirements shall not knowingly be placed in the work. If failing concrete inadvertently gets placed in the work, review either the MnDOT Standard Specifications for Construction or contact the Concrete Engineering Unit for monetary deductions recommendations.

It is recommended that the Agency representative continually monitor the progress of all concrete pours in the field and review Certificates of Compliances. It is not a recommended practice to only perform minimum testing requirements and leave the pour.

Should circumstances arise on a project which makes the testing rate impractical, contact the Concrete Engineering Unit.

DEFINITIONS				
	Description	Sample Location Determined By	Sample Taken By	Sample Tested By
QC	Quality Control Testing performed by Contractor. Also known as Process Control Testing.	Contractor	Contractor	Contractor
QA	Quality Assurance Testing performed by the Agency. This test is performed on a companion sample to the Contractor's QC sample.	Contractor	Contractor	Agency
Verification	A sample to assure compliance of the Contractor's Quality Control program. The results shall be included as part of the QA Testing Program.	Agency	Agency	Agency
Verification Companion	A companion sample to the Agency's Verification sample provided to the Contractor. The Contractor <u>is required</u> to test this sample.	Agency	Agency	Contractor
IAST	The <u>I</u> ndependent <u>A</u> ssurance <u>S</u> ampling and <u>T</u> esting assures testers are sampling and testing properly and that equipment is calibrated correctly.	Agency	Contractor or Agency	Contractor or Agency

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)**Concrete Plant Batching Materials****Remarks:**

- (1) All materials must come from certified or qualified sources. All certified sources must state so on the delivery invoice.
 (2) The most current list of certified/approved sources can be found at www.dot.state.mn.us/products.

Sample Sizes:**Cementitious:** 5 lb. (2 kg)**Admixture:** 1/2 pt. (0.25 L) Producer obtains samples from dispensing tubes. Store samples in a plastic container.**Water:** 1 gal (3.5 L) Store sample in a clean glass or plastic container.

Pay Item No.	Material	Spec. No.	Minimum Required Sampling Rate for Laboratory Testing	Form No.
2301 2302 2401 2405 2411 2412 2422 2452 2461 2506 2511 2514 2519	Portland Cement Slag Blended Cement Fly Ash	3101 3102 3103 3115	For certified ready-mix and concrete paving: 1 sample when the plant is certified. Take an additional sample: 1) At 6 months, if producing Agency concrete, 2) If the plant changes sources, or 3) As the Contract requires. For precast concrete: 1 sample every 3 months during Agency production The Producer obtains and stores the sample in a sealed container provided by the Agency, and includes the supplier's delivery invoice from which the sample is obtained. Take additional samples as directed by the Concrete Engineer	24300 ID Card Cement Samples 24308 ID Card Fly Ash Samples
2521 2531 2533 2545 2550 2554 2557 2564 2565	Admixtures (Accelerating, Retarding, Water-Reducing, Air-Entraining, etc.)	3113	For all concrete: 1 sample when the plant is certified. Take additional samples: 1) At 3 month intervals during Agency production, 2) If the plant changes sources, or 3) As the Contract requires. The Producer obtains and stores the sample in a sealed container provided by the Agency. Take additional samples as directed by the Concrete Engineer	2410 Sample ID Card
	Water	3906	1 sample from any questionable source	2410 Sample ID Card

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)**Certified Ready-Mix - Concrete Plant Production****Remarks:**

- (1) Mix design is provided by MnDOT unless otherwise specified in the Contract.
 - (2) All gradation and quality tests require companion samples. Samples taken at location identified on Contact Report located at plant.
 - (3) Perform Quality testing as directed by the Concrete Engineer.
 - (4) Record all gradation weights in metric.
- **Use Certified Ready-Mix - Concrete Plant Production testing rates schedule when:**
- a) The entire concrete paving project is < 3,500 cu. yd. (2,900 m³)
 - b) When a secondary plant is used to provide minor work.

Minimum Sample Sizes:**Gradation Test:****(Companion Required, Double Sample Size)**

3/4" Plus, #4 (+19 mm)	25 lb. (12 kg)
3/4" Minus, #67 (-19 mm)	10 lb. (5 kg)
#7	6 lb. (2.5 kg)
#89, Sand	1.1 lb. (500 g)

Moisture Test:

Coarse Aggregate	2000 g
Fine Aggregate	500 g

Quality Sample Size for Lab Submittal:**(Companion Required, Double Sample Size)**

3/4" Plus, #4 (+19 mm)	50 lb. (24 kg)
3/4" Minus, #67, #7 (-19 mm)	30 lb. (15 kg)
#89, Fine Aggregate	30 lb. (15 kg)

Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing	Agency Testing	Form No.
2301** 2302 2401 2411 2452 2461 2506 2511 2514 2519 2521 2531 2533 2545 2550 2554 2557 2564 2565	Gradation Testing (QC/QA) (5-694.145 and 5-694.148)	2461 3126 3137	When over 20 yd ³ (m ³) of Agency concrete produced per week: Coarse and Fine: 1 per week or 1 per 400 yd ³ (m ³), whichever is greater If Agency production is 3 or more days per week, a minimum of one additional gradation sampled and tested on or after the third day is required per week. Washing the fine aggregate gradation (QC) sample is not required when the result on the -75µm (#200) sieve of the unwashed sample is less than 1.0%, Hold QA (QC companion) samples until they are picked up by the Agency monitor. Discard after 14 calendar days if not picked up. For Contractor Mix Designs utilizing an approved JMF and all Bridge Deck concrete mixes: Passing aggregate gradations are required prior to the start of concrete pours. Performing testing on representative material at the end of the most recent day of production is allowed.	None	21763 Concrete Aggregate Worksheet (QC/QA) 2449 Weekly Concrete Aggregate Report 21765 Concrete Aggregate Worksheet JMF (QC/QA)

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)

Certified Ready-Mix - Concrete Plant Production (cont.)					
Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing	Agency Testing	Form No.
2301** 2302 2401 2411 2452 2461 2506 2511 2514 2519 2521 2531 2533	Gradation Testing (Verification/ Verification Companion) (5-694.145 and 5-694.148)	2461 3126 3137	Test the Verification Companion sample. Complete on the day the sample was taken. Wash all fine aggregate Verification Companion samples.	Coarse and Fine: 1 Verification sample per week when Agency production is 1 or 2 days per week. 2 Verification samples per week when Agency production is 3 or more days per week. For small quantities: When less than 25 yd³ (m³) of Agency concrete is produced per week , Verification samples are not required Include verification companion results on Sample ID Card.	2449 Weekly Concrete Aggregate Report 24143 Weekly Certified Ready-Mix Plant Report (Verification)
2545 2550 2554 2557 2564 2565	Quality Testing including Coarse Aggregate Percent Passing - #200 (-75µm) (5-694.146)	3126 3137	Test at Contractor's Discretion	1 test each fraction per month For all bridge deck concrete poured during the month: If the monthly quality was not tested for 3137.2.D.2, take 1 additional quality sample for each coarse aggregate fraction and test for 3137.2.D.2. Identify quality samples with a "Q" on the Sample ID Card and the Quality companion sample. Write 3137.2.D.2 on bridge deck concrete Sample ID Cards.	2410 Sample ID Card
	Aggregate Moisture Testing (QC) (5-694.142)	2461	When over 20 yd³ (m³) of Agency concrete produced per day: Coarse and Fine: 1 completed every 4 hours. Complete the initial moisture content and adjust the batch water prior to the start of concrete production each day. If weather conditions allow, performing moisture testing on representative material at the end of production the prior evening is allowed. In this event, the four-hour rate will commence with the first pour of the day, regardless if it is placed in Agency or private work.	None	2152 Concrete Batching Report

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)**Concrete Pavement - Concrete Plant Production****Remarks:**

- (1) Mix Design is Contractor's responsibility with review by MnDOT unless otherwise specified in the Contract.
- (2) **Use Certified Ready-Mix - Concrete Plant Production testing rates schedule when:**
 - a) The entire concrete paving project is < 3,500 cu. yd. (2,900 m³)
 - b) When a secondary plant is used to provide minor work.
- (3) When w/c incentives apply according to 2301:
 - a) Contractor QC Technician and Agency Plant Monitor are required to be present during the entire pour. **If w/c incentives do not apply, the Agency Plant Monitor shall monitor as necessary to ensure compliance with the requirements of the Contract.**
 - b) A certified ready-mix plant shall be **dedicated (provides concrete only to the concrete paving project).**
- (4) All gradation samples shall be taken in the presence of the Agency, unless otherwise authorized by the Engineer. All samples shall be taken off the belt leading to the weigh hopper unless otherwise approved by the Engineer. All gradation and quality tests require companion samples.
- (5) Perform Quality testing as directed by the Concrete Engineer.

Minimum Sample Sizes:**Gradation Test:****(Companion Required, Double Sample Size)**

3/4" Plus, #4 (+19 mm)	25 lb. (12 kg)
3/4" Minus, #67 (-19 mm)	10 lb. (5 kg)
#7	6 lb. (2.5 kg)
#89, Sand	1.1 lb. (500 g)

Moisture Test:

Coarse Aggregate	2000 g
Fine Aggregate	500 g

Quality Sample Size for Lab Submittal:**(Companion Required, Double Sample Size)**

3/4" Plus, #4 (+19 mm)	50 lb. (24 kg)
3/4" Minus, #67, #7 (-19 mm)	30 lb. (15 kg)
#89 Fine Aggregate	30 lb. (15 kg)

75µm (#200) Coarse Aggregate Sample Size

3/4" Plus, #4 (+19 mm)	10 lb. (5000 g)
3/4" Minus, #67, #7 (-19 mm)	6 lb. (2500 g)

Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing		Agency Testing		Form No.
2301	Gradation Testing (QC/QA) (5-694.145 and 5-694.148)	3126 3137	<u>For a concrete paving batch plant:</u>	<u>For a certified ready-mix plant:</u>	Test the first 4 QA samples of production each time the Contractor mobilizes the plant in a new calendar year or changes aggregate sources.		21764 Concrete Aggregate Worksheet JMF
			<u>When over 250 yd³ (m³) is produced per day:</u> 1 per 1500 yd ³ (m ³) or completed 1 per ½ day, whichever results in the higher sampling rate.	<u>When over 20 yd³ (m³) is produced per day:</u> 1 per 400 yd ³ (m ³) or completed every 4 hours, whichever results in the higher sampling rate.	<u>For a concrete paving batch plant:</u> 1 per day on randomly selected samples thereafter.	<u>For a certified ready-mix plant:</u> 1 per 1000 yd ³ (m ³) or 1 per week, whichever results in higher sampling rate on randomly selected samples thereafter.	
			Performing testing on representative material at the end of the most recent day of production is allowed. If well-graded aggregate incentives apply: Use the Contractor's gradation results for well-graded aggregate incentive calculations as verified by Agency testing		Identify the gradation samples with "QA Gradation" on the Sample ID Card and include the JMF Number and the QC Gradation results. If Coarse Aggregate Quality Incentive/Disincentives apply: The Agency may also use the QA gradation sample for the Coarse Aggregate Quality incentive/disincentive testing. In this case, notify the Producer/Contractor to double the QC/QA gradation sample size.		

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)

Concrete Pavement - Concrete Plant Production (cont.)							
Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing		Agency Testing		Form No.
2301	Coarse Aggregate Percent Passing - #200 (-75µm) (QC/QA) (5-694.146)	3137	Test the first sample and then at least 1 of the next 3 samples on the first day of production and each time the Contractor mobilizes the plant, changes aggregate sources, or the cleanliness of the coarse aggregate is in question. 1 test per day thereafter Test these samples at the plant.		<u>For a concrete paving batch plant:</u> 1 randomly selected sample on the first day of production and each time the Contractor mobilizes the plant, changes aggregate sources, or the cleanliness of the coarse aggregate is in question. 1 test per week thereafter Test these samples at the plant.	<u>For a certified ready-mix plant:</u> 1 randomly selected sample on the first day of production and each time the Contractor mobilizes the plant, changes aggregate sources, or the cleanliness of the coarse aggregate is in question. 1 per 1000 yd ³ (m ³) or 1 per week, whichever results in the higher sampling rate on randomly selected samples thereafter.	21764 Concrete Aggregate Worksheet JMF - Paving
			<u>For a concrete paving batch plant:</u> If w/c incentives do not apply: 1 per 1000 yd ³ (m ³) or completed every 4 hours, whichever results in the higher sampling rate.	<u>For a certified ready-mix plant:</u> If w/c incentives do not apply: 1 completed every 4 hours.	<u>For a concrete paving batch plant:</u> If w/c incentives apply: 1 per 1000 yd ³ (m ³) or completed every 4 hours, whichever results in the higher sampling rate. Take initial samples for aggregate moisture testing within the first 250 yd ³ (m ³).	<u>For a certified ready-mix plant:</u> If w/c incentives apply: 1 per 200 yd ³ (m ³) or completed every 4 hours, whichever results in the higher sampling rate. Take initial samples for aggregate moisture testing within the first 100 yd ³ (m ³).	
			Complete the initial moisture content and adjust the batch water prior to the start of concrete production each day. If weather conditions allow, performing moisture testing on representative material at the end of production the prior evening is allowed.		If w/c incentives apply: Use aggregate moisture results for determining the water content to calculate the w/c ratio incentive/disincentive. Do not leave samples unattended.		
	Aggregate Moisture Testing (QC/Verification) (5-694.142)						Concrete W/C Ratio Calculation Worksheet

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)

Concrete Pavement - Concrete Plant Production (cont.)						
Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing	Agency Testing	Form No.	
2301	Water Content Verification Testing (Microwave Oven Verification) (5-694.532)	2301	Obtain the plastic concrete sample at the plant.	If w/c incentives apply: Microwave oven verification testing to verify the w/c ratio is completed in conjunction with Agency aggregate moisture testing. Do not leave samples unattended.	Concrete W/C Ratio Calculation Worksheet	
				<u>For a concrete paving batch plant:</u> Take initial sample for microwave oven verification testing within the first 250 yd ³ (m ³). At least one additional verification test should be taken if more than 1,000 yd ³ (m ³) is produced in a day.		<u>For a certified ready-mix plant:</u> Take initial sample for microwave oven verification testing within the first 100 yd ³ (m ³). At least one additional verification test should be taken if more than 400 yd ³ (m ³) is produced in a day.
	Unit Weight (QC) (5-694.542)		Test one load of concrete per day at the plant.	None		
	Air Content for Type 3 Concrete (QC) (5-694.541)	2301 2461	Test the first load of concrete at the plant.	None		

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)

Concrete Pavement - Concrete Plant Production (cont.)					
Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing	Agency Testing	Form No.
2301	Quality Testing including Coarse Aggregate Percent Passing - #200 (-75µm)	3126 3137	<p>Prior to concrete production: Test the Agency's pre-production sample at the Contractor's discretion</p> <p>During concrete production: Test the -#200 (-75µm) on the Quality companion sample the day it was sampled.</p> <p>All other testing is at the Contractor's discretion</p>	<p>Prior to concrete production for the primary concrete plant: Obtain pre-production samples for quality testing at least 16 hours prior to concrete production. Samples may be taken from the stockpile and the -#200 (-75µm) test may be performed at the lab instead of at the plant at the discretion of the Engineer. If the Entire Project is < 3,500 cu. yd. (2,900 m³), pre-production sampling is not required.</p> <p>During concrete production: 1 randomly selected test each fraction every 20,000 yd³ (m³) of production.</p> <p>Split the Quality sample 4 ways:</p> <ol style="list-style-type: none"> 1) Provide 2 quarters of the sample to the Producer/Contractor. 2) Test the -#200 (-75µm) on the quality sample <u>at the plant</u> the day it was sampled. 3) Submit the remaining sample to the lab for quality testing including testing on the -#200 (-75µm) sieve. <p>Identify quality samples with a "Q" and record the QC and QA -#200 (-75µm) test results on the Sample ID Card.</p> <p>Identify the Quality Companion samples with a "Q".</p> <p>See additional requirements for first sand quality sample under ASR Testing.</p>	2410 Sample ID Card
2301	Alkali Silica Reactivity (ASR) Testing	2301	None	<p>1 per paving project per sand source</p> <p>Provide one 5 lb. sample of:</p> <ol style="list-style-type: none"> 1) cement 2) supplementary cementitious material (fly ash or slag), and 3) sand. <p>Write "Project Specific ASR Testing" on all 3 Sample ID cards.</p> <p>ASR Testing is not required if the entire project is <3,500 cu. yd. (2,900 m³).</p>	<p>2410 Sample ID Card</p> <p>24300 ID Card Cement Samples</p> <p>24308 ID Card Fly Ash Samples</p>

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)

Concrete Pavement - Concrete Plant Production (cont.)						
Pay Item No.	Test Type	Spec. No.	Producer/Contractor Testing	Agency Testing	Form No.	
2301	Coarse Aggregate Quality Testing for Incentive/Disincentive	3137	Test at Contractor’s discretion	If coarse aggregate quality incentives apply: Test the Class B aggregates for % absorption and Class C aggregates for % carbonate including any other tests necessary to make those determinations.	2410 Sample ID Card Coarse Aggregate Quality Incentive/Disincentive Worksheet	
				Sample the 2 largest fractions in accordance with the following table and 2301:		
				Coarse Aggregate Quality Incentive/Disincentive Sampling Rates		
				Plan Concrete cu. yd. [cu. m]		Samples per fraction (n)
				3,500 – 7,500 [2,900 – 6,250]		3
				7,501 – 10,000 [6,251 – 8,500]		5
				10,001 – 25,000 [8,501 – 21,000]		10
				25,001 – 50,000 [21,001 – 42,000]		15
				> 50,000 [42,000]		20
				Identify incentive samples on the Sample ID Card with “I/D”		

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)**Concrete Field Materials (Refer to Metallic Materials and Metal Products for sampling requirements for concrete reinforcement.)****Sample Sizes:****Joint Materials:**

Hot Poured Elastomeric: 5 lb. (2.26 kg) Take samples from application wand, store in steel (1 gal) container.
 Silicone Joint Sealer: 1 pt. (0.5 L) Store sample in steel container.

Preformed Elastomeric: 6 ft. (2 m)
 Preformed: 2 ft²(0.25 m²)

Curing Materials:

Burlap: 1 yd² (m²)
 Paper and Plastic: 2 ft²(0.25 m²)
 Membrane Compound 1 qt. (1 L) If sampling is required, materials must be thoroughly stirred or agitated immediately prior to taking sample. Store sample in steel container and cover immediately.

Pay Item No.	Material	Spec. No.	Minimum Required Field Sampling Rate	Form No.
2301 2302 2401 2411 2514 2521 2531	Preformed	3702	Visual Inspection	2410 Sample ID Card
2301 2302 2401	Preformed Elastomeric Type	3721	1 per lot	
	Silicone Joint Sealer	3722	Only joint materials from qualified sources are allowed. The most current lists can be found at www.dot.state.mn.us/products	
	Hot Poured Elastomeric Type	3723 3725		
2301 2302 2401 2411 2514 2520 2521 2531 2533	Burlap	3751	Visual Inspection	
	Paper	3752	Visual Inspection - Must be white opaque	
	Membrane Curing Compound	3754 3754AMS 3755	Visual Inspection – Use only Pre-Approved Curing Compounds. Refer to the approved products list of curing compounds for pre-approved lots at http://www.mrrapps.dot.state.mn.us/CuringCompoundProducts/curingcompounds.aspx	
	Plastic	3756	Visual Inspection -Must be white opaque and free from holes. A Certificate of Compliance shall be submitted to the Project Engineer from the Manufacturer certifying that the plastic complies with AASHTO M171.	

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)**Concrete Field Testing –General Concrete Grades F, G, M, P, and R****Sampling Locations for Air, Slump, Temperature and Cylinder Testing**

(1) First load each day per mix - Take sample after discharging approximately $\frac{1}{4}$ yd³, stop further discharge until both slump and air content test are completed.

(2) Subsequent tests - Sample from the middle portion of the load.

Pay Item No.	Test Type	Spec. No.	Contractor Testing	Agency Testing	Form No.
2302 2452 2461 2506 2511 2514 2520 2521 2531 2533 2545 2550 2554 2557 2564 2565	Air Content for Type 3 Concrete (Verification) (5-694.541)	2461		1 per 100 yd ³ (m ³) Test first load each day per mix Test when adjustments are made to the m	2448 Weekly Concrete Report
	Slump (Verification) (5-694.531)	2461		Test first load each day per mix, then test as necessary to verify passing slump No slump testing required for slipform placement	
	Air and Concrete Temperature (5-694.550)	2461	Record temperature each time air content, slump, or strength test specimen is performed/fabricated.	Record temperature each time air content, slump, or strength test specimen is performed/fabricated.	
	Compressive Strength (Verification) (5-694.511)	2461	Any additional control cylinders are the responsibility of the Contractor. MnDOT standard cylinder mold size is 4 x 8 inch (100 x 200 mm). If aggregate has a maximum size greater than 1-1/4 inch (31.5 mm), use 6 x 12 inch (150 x 300 mm) molds.	1 set of 3 cylinders per 300 yd ³ (m ³) MnDOT will break 3 cylinders at 28-days MnDOT will cast up to three (3) control cylinders. MnDOT standard cylinder mold size is 4 x 8 inch (100 x 200 mm). If aggregate has a maximum size greater than 1-1/4 inch (31.5 mm), use 6 x 12 inch (150 x 300 mm) molds for the 28-day strengths.	2409 ID Card Concrete Test Cylinder When submitting samples, record all field test results and Batch Ticket Number on the Cylinder ID Card.

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)**Concrete Field Testing – Bridge Concrete Grades B, S, and Y****Sampling Locations for Air, Slump, Temperature and Cylinder Testing**

- (1) First load each day per mix - Take sample after discharging approximately $\frac{1}{4}$ yd³, stop further discharge until both slump and air content test are completed.
 (2) Subsequent tests - Sample from the middle portion of the load.

Pay Item No.	Test Type	Spec. No.	Contractor Testing	Agency Testing	Form No.
2401 2406 2411 2461	Air Content for Type 3 Concrete (Verification) (5-694.541)	2461		1 per 100 yd ³ (m ³) Test first load each day per mix Test when adjustments are made to the m	2448 Weekly Concrete Report
	Slump (Verification) (5-694.531)	2461		1 per 100 yd ³ (m ³) Test first load each day per mix Test as necessary to verify passing slump No slump testing required for slipform placement	
	Air and Concrete Temperature (5-694.550)	2461	Record temperature each time air content, slump, or strength test specimen is performed/fabricated.	Record temperature each time air content, slump, or strength test specimen is performed/fabricated.	
	Compressive Strength (Verification) (5-694.511)	2461	Any additional control cylinders are the responsibility of the Contractor. MnDOT standard cylinder mold size is 4 x 8 inch (100 x 200 mm). If aggregate has a maximum size greater than 1-1/4 inch (31.5 mm), use 6 x 12 inch (150 x 300 mm) molds.	1 set of 3 cylinders for 100 yd ³ (m ³), then 1 set of 3 cylinders per 300 yd ³ (m ³) thereafter MnDOT will break 3 cylinders at 28-days MnDOT will cast up to three (3) control cylinders. MnDOT standard cylinder mold size is 4 x 8 inch (100 x 200 mm). If aggregate has a maximum size greater than 1-1/4 inch (31.5 mm), use 1 set of 2 (6 x 12 inch (150 x 300 mm) molds) in lieu of the 1 set of 3 - 4 x 8 cylinders for the 28-day strengths.	2409 ID Card Concrete Test Cylinder When submitting samples, record all field test results and Batch Ticket Number on the Cylinder ID Card.

Concrete Field Testing – Cellular Concrete

Pay Item No.	Test Type	Spec. No.	Agency Testing	Form No.
2519	Compressive Strength (Verification) (5-694.511)	2461 2519	1 set of 4 cylinders (28-day) per day 4 x 8 inch (100 x 200 mm) cylinders shall be filled in two equal lifts, do not rod the concrete, lightly tap the sides, cover and move to area with minimal or no vibration. Do not disturb for 24 hours.	2409 ID Card Concrete Test Cylinder

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)

Concrete Field Testing – Concrete Pavement					
Pay Item No.	Test Type	Spec. No.	Contractor Testing	Agency Testing	Form No.
2301	Air Content Before Consolidation for Type 3 Concrete (QC/QA) (5-694.541)	2301 2461	1 per 300 yd ³ (m ³) or 1 per hour, whichever results in the lower testing rate is less Test first load each day per mix	1 correlation air test per day	2448 Weekly Concrete Report
	Air Content After Consolidation for Type 3 Concrete (QC/QA) (5-694.541)	2301 2461	Test 1 air content per ½ day of slip form paving to establish an air loss correction factor (ACF). See Special Provisions for additional information.	1 air test per day	
	Slump (QC/QA) (5-694.531)	2461	For fixed form placement: 1 per 300 yd ³ (m ³) and as directed by the Engineer Test first load each day per mix For slipform placement: No slump testing is required	For fixed form placement: 1 slump test per day For slipform placement: No slump testing is required	
	Concrete Temperature (QC/QA) (5-694.550)	2461	Record temperature each time air content, slump or strength test specimen is performed/fabricated by the Contractor.	Record temperature each time air content, slump or strength test specimen is performed/fabricated by the Agency.	
	Flexural Strength (QC) (5-694.521)	2301 2461	1 beam (28-day) per day - Make additional control beams as necessary. - Control beams shall be made <u>within the last hour</u> of concrete poured each day. Fabricate beams, deliver beams to curing site, and clean beam boxes. Cylinders may be substituted for beams at the discretion of the Engineer	Supply beam boxes, cure, and test beams. MnDOT standard beam box size is 6" x 6" x 20" unless other sizes or types are approved by the Concrete Engineer.	2162 Concrete Test Beam Data
	Concrete Pavement Texture (QC)	2301	1 per 1000 linear feet per lane of concrete pavement at locations determined by the Agency. All adjoining lanes shall be tested at the same location if paved at the same time. The Contractor supplies all materials necessary to perform the required testing.	Determine texture testing locations using random numbers.	Probing Coring Texture and MIT-SCAN T2 Report

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)

Concrete Field Testing – Concrete Pavement (cont.)					
Pay Item No.	Test Type	Spec. No.	Contractor Testing	Agency Testing	Form No.
2301	Thickness (QC/Verification)	2301	The Contractor drills concrete cores at locations determined by the Agency. The Contractor probes the plastic concrete at locations determined by the Agency.	Determine probing and coring locations using random numbers. Initial pavement at core locations and re-initial the sides of specimens after coring to clearly verify their authenticity.	24327 Probing Coring Texture and MIT-SCAN T2 Report
2301	Surface Smoothness	2399	Contractor provides MnDOT certified inertial profiler results for the entire project as required by the Contract.	None	Concrete Profile Summary Worksheet

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)**Concrete Field Testing - Low Slump Concrete for Bridge Deck Overlays****Remarks:**

- (1) Mix design is provided by MnDOT on the back of the Form 21412 Weekly Report of "Low Slump Concrete" unless otherwise specified in the Contract.
 (2) All field gradation samples shall be taken by the Agency. All gradation and quality tests require companion samples.
 (3) Perform Quality testing as directed by the Concrete Engineer.

Minimum Sample Sizes:**Gradation Test:****(Companion Required, Double Sample Size)**

#7 6 lb. (2.5 kg)

Sand 1.1 lb. (500 g)

Quality Sample Size for Lab Submittal:**(Companion Required, Double Sample Size)**

Coarse Aggregate 50 lb. (24 kg)

Fine Aggregate 30 lb. (15 kg)

Pay Item No.	Test Type	Spec. No.	Contractor Testing	Agency Testing	Form No.
2404	Gradation and Quality Testing including Coarse Aggregate Percent Passing - #200 (-75µm) (QC/Verification) (5-694.145, 5-694.146) and 5-694.148))	3126 3137	Prior to concrete production, the Contractor shall provide the Agency with: <ul style="list-style-type: none"> Aggregate pit numbers 1 passing gradation result per aggregate fraction per source No quality test results are required. Test companion samples at Contractor's discretion.	1 per aggregate fraction prior to concrete production and each time aggregate is delivered to the site. Identify quality samples with a "Q" on the Sample ID Card and the Quality companion sample.	2410 Sample ID Card 21412 Weekly Report of "Low Slump Concrete"
	Air Content for Type 3 Concrete (Verification) (5-694.541)	2461	None	1 per 15 yd ³ (m ³) Test at beginning of pour each day	
	Slump (Verification) (5-694.531)	2461	None	1 per 15 yd ³ (m ³) Test at beginning of pour each day For concrete from a concrete-mobile, allow mix to hydrate 4 to 5 minutes before slump test to assure all cement is saturated.	
	Compressive Strength (Verification) (5-694.511)	2461	None	1 cylinder (28-day) per 30 yd ³ (m ³)	2409 ID Card Concrete Test Cylinder

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)

Concrete Field Testing – Concrete Pavement Repair (CPR) for 3U18

Remarks:

- (1) Mix design is provided in accordance with MnDOT Spec 3105 unless otherwise specified in the Contract.
- (2) Testing rates apply to concrete that is produced on site.
- (3) All field gradation samples shall be taken by the Agency. All gradation and quality tests require companion samples.
- (4) Perform Quality testing as directed by the Concrete Engineer.

Minimum Sample Sizes:

Gradation Test:

(Companion Required, Double Sample Size)

3/4" Minus, #67 (-19 mm) 10 lb. (5 kg)
 #7 6 lb. (2.5 kg)
 #89, Sand 1.1 lb. (500 g)

Quality Sample Size for Lab Submittal:

(Companion Required, Double Sample Size)

Fine Aggregate 30 lb. (15 kg)

Pay Item No.	Test Type	Spec. No.	Contractor Testing	Agency Testing	Form No.
2302	Gradation and (QC/Verification) (5-694.145 and 5-694.148)	3126 3137	Prior to concrete production, the Contractor shall provide the Agency with: <ul style="list-style-type: none"> Aggregate pit numbers 1 passing gradation result per aggregate fraction per source. Test companion samples at Contractor's discretion.	1 per aggregate fraction prior to concrete production and each time aggregate is delivered to the site.	2410 Sample ID Card
	Quality Testing including Coarse Aggregate Percent Passing - #200 (-75µm) (5-694.146)	3126 3137	No quality test results are required.	1 test each aggregate fraction per source The Agency may use the gradation results for the Quality Samples as a substitute for 1 required field gradation. Identify quality samples with a "Q" on the Sample ID Card and the Quality companion sample.	2410 Sample ID Card
	Air Content for Type 3 Concrete (Verification) (5-694.541)	2461	None	1 per 15 yd ³ (m ³) Test at beginning of pour each day.	CPR1 Field Testing Report for CPR

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)

Concrete Field Testing – Concrete Pavement Repair (CPR) for 3U18 (cont.)

Remarks:

- (1) Mix design is provided in accordance with MnDOT Spec 3105 unless otherwise specified in the Contract.
- (2) Testing rates apply to concrete that is produced on site.
- (3) All field gradation samples shall be taken by the Agency. All gradation and quality tests require companion samples.
- (4) Perform Quality testing as directed by the Concrete Engineer.

Minimum Sample Sizes:

Gradation Test:

(Companion Required, Double Sample Size)

3/4" Minus, #67 (-19 mm) 10 lb. (5 kg)
 #7 6 lb. (2.5 kg)
 #89, Sand 1.1 lb. (500 g)

Quality Sample Size for Lab Submittal:

(Companion Required, Double Sample Size)

Fine Aggregate 30 lb. (15 kg)

Pay Item No.	Test Type	Spec. No.	Contractor Testing	Agency Testing	Form No.
2302	Slump (Verification) (5-694.531)	2461	None	1 per 15 yd ³ (m ³) Test at beginning of pour each day. Allow mix to hydrate 5 minutes before slump test to assure all cement is saturated.	
	Compressive Strength (Verification) (5-694.511)	2461	None	1 cylinder (28-day) per 30 yd ³ (m ³)	2409 ID Card Concrete Test Cylinder

IV. Concrete Construction Items (cont.) (www.dot.state.mn.us/materials/concrete.html)**Concrete Field Testing – Dowel Bar Retrofit (DBR)****Remarks:**

- (1) Mix Design is Contractor's responsibility with review by MnDOT unless otherwise specified in the Contract.
- (2) Testing rates apply to concrete that is produced on site. (Not from a certified ready-mix plant.)
- (3) All field gradation samples shall be taken by the Agency. All gradation and quality tests require companion samples.
- (4) Perform Quality testing as directed by the Concrete Engineer.

Minimum Sample Sizes:**Gradation Test:****(Companion Required, Double Sample Size)**

#89, Sand 1.1 lb. (500 g)

Quality Sample Size for Lab Submittal:**(Companion Required, Double Sample Size)**

Coarse Aggregate 50 lb. (24 kg)

Fine Aggregate 30 lb. (15 kg)

Pay Item No.	Test Type	Spec. No.	Contractor Testing	Agency Testing	Form No.
2302	Gradation and Quality Testing including Coarse Aggregate Percent Passing - #200 (-75µm) (QC/Verification) (5-694.145, 5-694.146 and 5-694.148)	3126 3137	Prior to concrete production, the Contractor shall provide the Agency with: <ul style="list-style-type: none"> Aggregate pit numbers 1 passing gradation result per aggregate fraction per source. No quality test results are required. Test companion samples at Contractor's discretion.	1 per aggregate fraction prior to concrete production and each time aggregate is delivered to the site. Identify quality samples with a "Q" on the Sample ID Card and the Quality companion sample.	2410 Sample ID Card
	Dowel Bar Retrofit Material Compressive Strength (Verification) (5-694.511)	2301 2302	None	During the pre-production test operations: 1 set of 3 cylinders tested at a rate as directed by the Engineer. Testing may need to be repeated if any problems with the dowel bar retrofit material are encountered. First day of production: 1 set of 3 cylinders tested at a rate as directed by the Concrete Engineer. After the first day of production: 1 cylinder per day during production tested at rate determined by Engineer to determine opening to traffic strength.	2409 ID Card Concrete Test Cylinder

V. Landscaping and Erosion Control Items

Pay Item No	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2571 2574 2575	1. Topsoil borrow ^a	3877.2	None	From each source: One composite sample for the first 765 m ³ (1,000 Cu yd.). Small quantities under 75 m ³ (100 Cu yd.), no sample required.	10 kg (20 lb.)	^a Certificate of Compliance showing meets specifications. Testing for topsoil for fertility by Contractor at a Certified Soils Lab.
2571 2575 2577	2. Plant Stock & Landscape Materials ^b	3861 and 2571.2A1	Field Inspection at Job Site, submit itemized report for each shipment ^c .			^b Preliminary inspection will not be done at the source. Material must be in accordance with the Inspection and Contract Administration Guidelines for MnDOT Landscape Projects. ^c Utilize "Inspection and Contract Administration Guidelines for MnDOT Landscape Projects" to determine and measure minimum and maximum criteria thresholds. The following documentation must be provided: 1. A MnDOT Certificate of Compliance for Plant Stock, Landscape Materials, and Equipment 2. A valid copy of a nursery stock (dealer or grower) certificate registered with the MN Dept. of Agric. And/or a current nursery certificate/license from a state or provincial Dept. of Agric. for each plant stock supplier. 3. A copy of the most recent Certificate of Nursery Inspection for each plant stock supplier. 4. Plant material shipped from out-of-state nursery vendors subject to pest quarantines must be accompanied by documentation certifying all plants shipped are free of regulated pests. 5. Bills of lading (shipping documents) for all materials delivered. 6. Invoices for all materials to be used. 7. Each bundle, bale, or individual plant must be legibly and securely labeled with the name and size of each species or variety.
2502 2573 2575 2577	3. Erosion Control Blanket ^d	3885	Visual Inspection	Random - See Footnote ^d		^d Check Web site for list of approved products.. www.dot.state.mn.us/products

V. Landscaping and Erosion Control Items (cont.)

Pay Item No	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2573 2577	4. Erosion Control Netting ^c	3885	Visual Inspection			^c Check Web site for list of approved products. www.dot.state.mn.us/products
2573	5. Silt Fence ^f	3886	Check Product Label. Obtain Certificate of Compliance with MARV values			^f Check Approved/Qualified Products List (A/QPL) of accepted geotextiles www.dot.state.mn.us/products
2573	6. Flotation Silt Curtain ^g	3887	Visual Inspection			^g Accepted, based on manufacturers' certification of compliance. Check weight of fabric.
2573 2575	7. Erosion Stabilization Mat ^h	3885	Visual Inspection			^h Check Web site for list of approved products. www.dot.state.mn.us/products
2573	8. Sediment Control Logs	3897	Visual Inspection			Meet specifications
2573	9. Flocculants ⁱ	3898	Visual Inspection	None		ⁱ Certificate of Compliance and MSDS to the Engineer.
2571 2575	10. Fertilizer ^j	3881	Visual Inspection			^j Bagged: Inspected on the basis of guaranteed analysis. Rate based on fertility analysis of slope dressing/topsoil. Bulk: Inspector to obtain copy of invoice of blended material stating analysis. Check the type specified.
2571 2575	11. Agricultural Lime ^k	3879	One gradation test for each 180 Metric Ton (200 ton)			^k Contractor must supply amount of ENP (Equivalent Neutralizing Power) for each shipment.
2575 2577	12. Mulch Material A. Type 3 Mulch - Certified Weed Free (Certified sources only) ^l	3882	Visual Inspection, Check if from Certified Vendor by Minnesota Crop Improvement Association. Must be tagged, grain straw only.			^l Certified mulch will be indicated by label.

V. Landscaping and Erosion Control Items (cont.)

Pay Item No	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2571 2575 2577	13. Mulch Material B. Type 6 Mulch – Woodchips	3882	Visual Inspection. Obtain Certificate of Compliance.			All wood chips supplied by a supplier outside the Emerald Ash Borer quarantine area or have an Emerald Ash Borer Compliance Agreement with the MDA.
2502 2575 2577	14. Seeds A. Seeds (Certified Vendors Only) (Mixes 22-000 and 25-000 series) ^m	3876	Check for Certified Vendor tag from Minnesota Crop Improvement Association. If materials are on hand and past the twelve months, testing must be done.			^m Periodic sampling taken by Office of Environmental Services. Any moldy or insect contaminated seed must be rejected.
2502 2575 2577	14. Seeds B. Native Seed (Mixes 30-000 series) certified seed only ⁿ	3876	Check if from Certified Vendor by Minnesota Crop Improvement Association. Must be tagged. If materials are on hand and past the twelve months, testing must be done.			ⁿ Certified seed will be indicated by label on containers. Reject all moldy or insect contaminated seed. Periodic sampling taken by Office of Environmental Services.
2575	15. Sod ^o	3878	A certified tag by Minnesota Crop Improvement Association for Salt tolerant sod. Final Visual Inspection at site.			^o A Certificate of Compliance must be furnished by the producer to the Engineer for the type of sod supplied showing correct grass varieties.
2571 2575	16. Compost A. Compost Certified Source ^p	3890	Visual Inspection			^p Check Approved/Qualified Products List (A/QPL), retain Certificate of Compliance.
2571 2575	17. Compost B. Compost Non-Certified Source ^q	3890	Inspection of source 6 weeks prior to delivery.			^q Retain Certificate of Compliance, 6 weeks prior to delivery.
2575	18. Hydraulic Soil Stabilizer ^r	3884				^r Check Approved/Qualified Products List (A/QPL). Installer needs to show certificate of training.

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2401	Asphalt Plank	3204	Check for proper type and size as specified in plans. Lab Sample Required	1 per 1,000 plank or less of each thickness in each shipment	3 – 1 m (yd.) pieces samples from different planks	
2131	Calcium Chloride	3911	Check for listing on Qualified Products website. Lab Sample Required (see Notes)	Liquid: 1 per shipment Dry: 1 per shipment	0.5 L (1 pint) or 0.5 kg (1 lb.) in Plastic Container	Provide copy of the BOL with sample.
2131	Magnesium Chloride	3912	Check for listing on Qualified Products website. Lab Sample Required (see Notes)	1 per 40,000 L (1 per 10,000 gal.)	0.5 L (1 pint) in Plastic Container	Provide copy of the BOL with sample.
2331	Hot-Pour Crack Sealant for Crack Sealing/Filling	3719 3723 3725	Check for listing on Qualified Products website. (see Notes) Lab Sample Required	1 per lot. Take samples from application wand. Use caution when handling hot containers	2.26 kg (5 lb.) in a 1gal steel container.	Form 02415 List batch numbers and retain Certificate of Compliance.
2331	Pavement Joint Adhesive	Special Provisions	Lab Sample Required	1 per lot. Take samples from application wand. Use caution when handling hot containers	2.26 kg (5 lb.) in a 1gal steel container	
2481	Waterproofing Materials Membrane Waterproofing System	3757	Check for listing on Qualified Products website. Lab Sample Required	1 per shipment (Membrane Only)	0.1 m ² (1 Sq. Ft)	

VI. Chemical Items (cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2481	Waterproofing Materials Three Ply System Asphalt Primer	3165	Verify supplied material meets ASTM D 41 Lab Sample Required	1 per shipment	0.5 L (1 pt.) in steel container	
2481	Waterproofing Materials Three Ply System Waterproofing Asphalt	3166	Verify supplied material meets ASTM D 449 Lab Sample Required	1 per shipment	0.5 L (1 pt.) in steel container	
2481	Waterproofing Materials Three Ply System Fabric	3201	Verify supplied material meets ASTM D 41 Lab Sample Required	1 per shipment	1 m ² (1 Sq. yd.)	
2582	Waterborne Latex Traffic Marking Paint.	3591	Check for listing on Qualified Products website. (see Notes) Lab Sample Required	1 per lot	0.5 L (1 pint)	Form 02415 List batch numbers and retain Certificate of Compliance.
2582	Epoxy Traffic Paint	3590	Check for listing on Qualified Products website. (see Notes) Lab Sample Required	1 Part A per lot 1 Catalyst Part B per lot	0.5 L (1 pint)	Form 02415 List batch numbers and retain Certificate of Compliance.
2582	Traffic Marking Paint	Special Provisions	Check for listing on Qualified Products website. (see Notes) Lab Sample Required	High Build Latex 1 per lot Other Two Part Markings 1 Resin Part A per lot 1 Catalyst Part B per lot	0.5 L (1 pint)	Form 02415 List batch numbers and retain Certificate of Compliance. For traffic marking paints other than Waterborne Latex and Epoxy. See Special Provision for Qualified Products List.
2564	Non-Traffic Marking Paints	3501 3532 3533 Special Provisions	Check for proper material as specified in plans. (see Notes) Lab Sample Required	1 per lot	0.5 L (1 pint)	Form 02415 List batch numbers.

VI. Chemical Items (Cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2478	Bridge Structural Steel Paint	3520	Check for listing on Approved Products website. (see Notes) No Lab Sample Required			Form 02415 List batch numbers and provide Certificate of Compliance with each batch/lot for each component of the paint system to the Engineer. Confirm that the contractor provided a color "Draw Down" sample to the MnDOT Chemical Laboratory for verification of the finish coat color.
	Exterior Masonry Paint	3584	Check for proper material as specified in plans. (see Notes) Lab Sample Required	1 per lot	0.5 L (1 pint)	Form 02415 List batch numbers.
	Noise Wall Stain	Special Provisions	Check for listing on Approved Products website. (see Notes) No Lab Sample Required	1 per lot	0.5 L (1 pint)	Form 02415 List batch numbers.
2582	Drop-on Glass Beads	3592	Check for listing on Qualified Products website. (see Notes) Lab Sample Required	1 per lot	1 L (qt.)	Form 02415 List lot numbers and retain Certificate of Compliance
2502 2581 2582	Pavement Marking Tape	3354 3355 Special Provisions	Check for listing on Qualified Products website. (see Notes) Lab Sample Required	1 per lot of each color and width	3 m (3 yds.) if 12" or less 1 m (1 yd) if greater than 12"	Form 02415 List lot numbers and retain Certificate of Compliance.

VI. Chemical Items (Cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2540 2563 2564 2565 2582	Signs and Markers	3352	Check for listing on Approved Products website. No Lab Sample Required	None unless material suspect		

VII. Metallic Materials and Metal Products

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2554	1. Guard Rail A. Fittings - Splicers, Bolts, etc.	3381	Visual Inspection – sample if necessary, see notes	Bolts: One Post bolt and 4 splice bolts with nuts for each 1,000 units or less.		Form 02415 or 2403 To be approved before use. Materials from H&R may be pre-sampled and tested. Call the MnDOT inspector at 218-846-3613 to see if material has been approved. For non-pre-tested, submit laboratory samples at required rate. For small quantities, lab samples are not required, but document on Form 02415 or 2403 and maintain in project file. Small Quantities: Rail Sections - 20 or less Terminals - 10 or less Post Bolts - 100 or less, Splice Bolts - 100 or less
2554	1.B.i. Non-High Tension Guard Rail Cable	3381	Visual Inspection – submit sample	1 sample from each spool	1.2 m (4 ft.)	Form 02415 or 2403 See VII.1.A.
2554	1. B.ii. High Tension Guard Rail Cable	Special Provisions	Visual Inspection – see notes	None, unless material is suspect (see note)	1.2 m (4 ft.)	Sample at the rate of 1/50,000 ft. if the strand appears damaged or suspect (Accepted as part of system)
2554	1. Guard Rail C. Structural Plate Beam	3382	Visual Inspection – see notes	One sample from one end of a section for each 200 (or portion thereof) rail sections or one sample of each 100 terminal sections	Full depth x 0.25 m (full depth x 10")	Form 02415 or 2403 See VII.1.A.
2554	D. Plate Beam Guide Posts	3382	Visual Inspection	None, unless material is suspect		Form 02415 or 2403
2554	E. High Tension Guide Posts	Spec. Provisions	Visual Inspection	None, unless material is suspect		Form 02415 or 2403 (Accepted as part of system)

VII. Metallic Materials and Metal Products (cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2545 2554 2564	2. Steel Sign Posts	3401	Visual Inspection & Certification from Contractor of compliance with Domestic source requirement under 1601, if applicable. Submit sample from material being installed, see notes	One post per shipment of each mass per unit length. Submit shortest full sized length of each weight, not a scrap piece.	See note	Form 02415 or 2403 Check domestic steel requirement under 1601 No Samples for project quantities less than 20
2554 2557	3. Posts for Traffic & Fence A. Steel fence posts, brace bars, and rails	3403 3406	Visual Inspection - submit sample of material being installed, see notes	One sample per 500 pieces. Submit full length for posts used in the ground (line, terminal, "C" and anchor posts), and 5' length of top rail and brace bar. Small Quantity (less than 1000 ft. on entire project): sample line post, top rail, and brace bar only.		Form 02415 or 2403 Check domestic steel requirement under 1601 Special Provision. Retain Certificate of Compliance and certified mill analysis in project file. See link for certification form on right side of page, www.dot.state.mn.us/materials/lab.html
2557	3. Fence B. Components: includes cup, cap, nut, bolt, end clamp, tension band, truss rod tightener, hog ring, tie wire, tension stretcher bar, truss rod, clamp, & tension wire	3376	Visual Inspection - submit sample of material being installed, see notes	1 each of cup, cap, nut, bolt, end clamp, tension bands, truss rod tightener, 12 hog rings, 6 tie wires, 1 tension stretcher bar; 1 truss rod, cut to 2-foot min. with threaded section, 3 feet of tension wire. Small quantity (less than 1000 ft. on entire project): no sample required		Form 02415 or 2403 Check domestic steel requirement under 1601 Special Provision. Retain Certificate of Compliance in the project file. See link for certification form on right side of page, www.dot.state.mn.us/materials/lab.html
2557	3. Fence C. Gates	3379	Visual Inspection, see notes	No sample required. See notes.		Form 02415 or 2403 Check domestic steel requirement under 1601 Special Provision. Retain Certificate of Compliance in the project file. See link for certification form on right side of page, www.dot.state.mn.us/materials/lab.html
2557	3. Fence D. Barbed Wire	3376	Visual Inspection – submit sample of material being installed, see notes	One sample per 50 rolls – see notes	1 m (3 ft.)	Form 02415 or 2403 Check domestic steel requirement under 1601 Special Provision. Retain Certificate of Compliance in the project file. See link for cert. form on right side of page, www.dot.state.mn.us/materials/lab.html

VII. Metallic Materials and Metal Products (cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2557	3. Fence E. Woven Wire Fabric	3376	Visual Inspection - submit sample of materials being installed, see notes	One full height sample per 50 rolls	1 m (3 ft.)	Form 02415 or 2403 Check domestic steel requirement under 1601 Special Provision. Retain Certificate of Compliance in the project file. See link for cert. form right side of page, www.dot.state.mn.us/materials/lab.html
2557	3. Fence F. Chain Link Fabric	3376	Visual Inspection - submit sample of materials being installed, see notes	One full height sample for each 5,000 ft. of fencing.	0.3 m (1 ft.)	Form 02415 or 2403 Check domestic steel requirement under 1601 Special Provision. Retain Certificate of Compliance in the project file. See link for certification form on right side of page, www.dot.state.mn.us/materials/lab.html
2402	4. Water Pipe and other Piping Materials	3364, 3365, 3366 & Special Provisions	See notes	No sample necessary		Form 02415 or 2403 Check domestic steel requirement under 1601 Special Provision. To be identified & tested if necessary prior to use. See Special Provisions.
2201 2301 2401 2405 2411 2412 2433 2452 2472 2514 2531 2533 2545 2564	5. Reinforcing Steel A. Bars – Uncoated	3301	Visual Check for Size and Grade Marking	No Field Sample Necessary		Form 02415 or 2403 For Uncoated bars - Retain Certificate of Compliance and Certified Mill Analysis in Project File.

VII. Metallic Materials and Metal Products (cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2201 2301 2401 2405 2411 2412 2433 2452 2472 2514 2531 2533 2545 2564	5. Reinforcing Steel B. Bars - Epoxy Coated	3301	Visual Check for Size and Grade Marking and "Inspected" tag. Inspect for damage to coating, verify repairs, if necessary. See notes.	One sample (1 bar) of each size of bar for each day's coating production	1 m (3 ft.)	Form 02415 or 2403 For Epoxy-Coated bars, steel will be tagged "Inspected" when it has been sampled and tested by MnDOT prior to shipment, and it will be tagged "Sampled" when testing has not been completed prior to shipment. If the Epoxy-Coated bars are not tagged "Sampled" or "Inspected", submit samples with copies of the , Certificate of Compliance, and Certified Mill Analysis. Retain originals of the Certificate of Compliance and Certified Mill Analysis in the project file.
2401	5. Reinforcing Steel C. Bars Stainless Steel	Special Provisions	Visual check for size and grade. Send sample bars from shipment. See note.	One sample (2 Bars) per heat per bar size	1 m (3 ft.)	Submit copies of mill test reports with samples, retain originals in project file
2401 2411 2452 2472 2564	5. Reinforcing Steel D. Spirals	3305	Submit sample, inspect for damage to coating, verify repairs, if necessary.	One per shipment	1 m (3 ft.)	Same as 5.B
2201 2301 2401 2411 2412 2472 2531	5. Reinforcing Steel E. Steel Fabric	3303	Visual inspection, see notes.	Field sample not necessary for uncoated fabric. If epoxy-coated, submit 2-ft.-square sample.		Retain Certificate of Compliance in project file. Verify material size, normally shown on metal tag on bundles of fabric. Use caliper or micrometer if there is no metal tag. If fabric is pre-bent, examine outside of bends for cracking. Do not allow cracked material to be installed.
2201 2301 2401 2411	5. Reinforcing Steel F. Dowel Bars	3302	Sample from material being used, including basket. See note.	One Dowel Bar from each shipment	Full Size Dowel Bars	For all types of dowels – Each project shall have a Certificate of Compliance from the Manufacturer certifying that all materials used in fabrication of the dowel bars and baskets comply with all applicable specifications. The Manufacturer shall maintain all records necessary for certification by project. The Certificate of Compliance shall be submitted to the Project Engineer

VII. Metallic Materials and Metal Products (cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2401 2405	5. Reinforcing Steel G. Prestressing or Post-Tensioning Strand	3348	If strand is installed at project site, sample from material being used.	One sample (2 strands) from each heat (see Notes)	1.8 m (6 ft.)	Submit one copy of mill certificate and one copy of the stress-strain curve representative of the lot with the samples. For most manufacturers, a heat equals a production lot, and an individual lot, pack, or reel is a subset of a heat/production lot.
2402 2506 2565	6. Drainage and Electrical Castings	3321 2471 2565	Check Approved/Qualified Products list and visual inspection at the project site. See notes.	All castings: Three tensile bars to be cast with each heat at Foundry and submitted to the lab by an approved Foundry*. See 3321.		Form 02415 or 2403 Verify source of material is listed on APL/QPL Inspect in the field and retain Form 02415 or 2403 in project file, showing name of foundry and quantity
2401 2402 2411 2433 2545 2554 2564 2565	7. Anchor Rods (Cast in Place)	3385 3391 3392	Check Approved/Qualified Products list, mill certifications, and visual inspection at the project site. Take sample if not listed on APL/QPL.	Pre-approved (see notes) or one complete anchor rod assembly including nuts and washers from each lot supplied.		Pre-approved system requires supplier to submit a sample to the Department yearly for each anchor rod grade. Test results of sample must verify compliance to product specifications.
2401 2402 2411 2433 2545 2554 2564 2565	8. Structural Fasteners, both coated and uncoated	3385 3391 3392	Visual inspection and verify material is on APL/QPL, or submit sample for verification testing if not on APL/QPL	Pre-approved (see notes) or two complete assemblies for each size, length, diameter, grade and finish, per increment of 1000 or fraction thereof		Pre-approved system requires the supplier to submit a sample yearly for each fastener size, grade and finish. Test results must verify compliance to specifications. If not on the APL/QPL, submit two complete assemblies for each size, length, grade and finish per increment of 1000 or fraction thereof of fasteners supplied for the project, including nuts and washers from each lot supplied. Obtain passing test results before installation.
2401 2411 2433 2545 2565	9. Anchorages (Drilled In)	Special Provisions, Standard Plates, Plan Sheet Details	Visual Inspection. Before installation, verify listing on APL/QPL.	Laboratory samples not required.		Note: Before installation, verify that anchorages are on the approved/qualified products list www.dot.state.mn.us/products <i>Or</i> Verify that anchorages are in accordance with the Standard Plate or the details in the Plan.

VII. Metallic Materials and Metal Products (cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2402	10. Structural Steel A. For Steel Bridge – Beams, Girders, Diaphragms, etc.	2471	Structural Metals Inspection Tag and field inspection for damage/defects	None		Structural metals products will be inspected at the plant and will be shipped with a Structural Metals Inspection Tag. An inspection confirmation report will be completed by Structural Metals Inspection staff and sent to the field personnel. Only approved suppliers are allowed to supply Structural Metals products. A list of approved suppliers can be found on the Bridge Office web site: http://www.dot.state.mn.us/bridge/
2402 2405	10. Structural Steel B. For Concrete Girders-Diaphragms and sole plates	2471	Structural Metals Inspection Tag and field inspection for damage/defects	None		Structural metals products will be inspected at the plant and will be shipped with a Structural Metals Inspection Tag. An inspection confirmation report will be completed by Structural Metals Inspection staff and sent to the field personnel. Only approved suppliers are allowed to supply Structural Metals products. A list of approved suppliers can be found on the Bridge Office web site: http://www.dot.state.mn.us/bridge/
2402	10. Structural Steel C.. Expansion joints	2471	Structural Metals Inspection Tag and field inspection for damage/defects	None		Structural metals products will be inspected at the plant and will be shipped with a Structural Metals Inspection Tag. An inspection confirmation report will be completed by Structural Metals Inspection staff and sent to the field personnel. Only approved suppliers are allowed to supply Structural Metals products. A list of approved suppliers can be found on the Bridge Office web site: http://www.dot.state.mn.us/bridge/
2402	10. Structural Steel D. Steel Bearings	2471	Structural Metals Inspection Tag and field inspection for damage/defects	None		Structural metals products will be inspected at the plant and will be shipped with a Structural Metals Inspection Tag. An inspection confirmation report will be completed by Structural Metals Inspection staff and sent to the field personnel. Only approved suppliers are allowed to supply Structural Metals products. A list of approved suppliers can be found on the Bridge Office web site: http://www.dot.state.mn.us/bridge/

VII. Metallic Materials and Metal Products (cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2402	10. Structural Steel E. Railing-Structural tube and ornamental	2471	Structural Metals Inspection Tag and field inspection for damage/defects	None		Structural metals products will be inspected at the plant and will be shipped with a Structural Metals Inspection Tag. An inspection confirmation report will be completed by Structural Metals Inspection staff and sent to the field personnel. Only approved suppliers are allowed to supply Structural Metals products. A list of approved suppliers can be found on the Bridge Office web site: http://www.dot.state.mn.us/bridge/
2402	10. Structural Steel F. Drainage Systems	2471	Structural Metals Inspection Tag and field inspection for damage/defects	None		Structural metals products will be inspected at the plant and will be shipped with a Structural Metals Inspection Tag. An inspection confirmation report will be completed by Structural Metals Inspection staff and sent to the field personnel. Only approved suppliers are allowed to supply Structural Metals products. A list of approved suppliers can be found on the Bridge Office web site: http://www.dot.state.mn.us/bridge/
2402	10. Structural Steel G. Protection Angles	2471	Structural Metals Inspection Tag and field inspection for damage/defects	None		Structural metals products will be inspected at the plant and will be shipped with a Structural Metals Inspection Tag. An inspection confirmation report will be completed by Structural Metals Inspection staff and sent to the field personnel. Only approved suppliers are allowed to supply Structural Metals products. A list of approved suppliers can be found on the Bridge Office web site: http://www.dot.state.mn.us/bridge/

VII. Metallic Materials and Metal Products (cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2564	11. Overhead Sign structures	2564 2471	Structural Metals Inspection Tag and field inspection for damage/defects	None		Structural metals products will be inspected at the plant and will be shipped with a Structural Metals Inspection Tag. An inspection confirmation report will be completed by Structural Metals Inspection staff and sent to the field personnel. Only approved suppliers are allowed to supply Structural Metals products. A list of approved suppliers can be found on the Bridge Office web site: http://www.dot.state.mn.us/bridge/
2545	12. High Mast Lighting Structures	2545 2471	Structural Metals Inspection Tag and field inspection for damage/defects	None		Structural metals products will be inspected at the plant and will be shipped with a Structural Metals Inspection Tag. An inspection confirmation report will be completed by Structural Metals Inspection staff and sent to the field personnel. Only approved suppliers are allowed to supply Structural Metals products. A list of approved suppliers can be found on the Bridge Office web site: http://www.dot.state.mn.us/bridge/
2565	13. Monotube Signal Structures	2565 2471	Structural Metals Inspection Tag and field inspection for damage/defects	None		Structural metals products will be inspected at the plant and will be shipped with a Structural Metals Inspection Tag. An inspection confirmation report will be completed by Structural Metals Inspection staff and sent to the field personnel. Only approved suppliers are allowed to supply Structural Metals products. A list of approved suppliers can be found on the Bridge Office web site: http://www.dot.state.mn.us/bridge/

VIII. Miscellaneous Materials

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2403 2422 2452 2521 2540 2545 2554 2557 2564	1. Timber, Lumber Piling & Posts	3412 to 3471 & 3491	Visual Inspection			Form 02415 or 2403 Untreated materials shall be inspected in the field and the results reported on Form 02415 or 2403. Treated materials shall be Certified on the Invoice or Shipping Ticket. Material is inspected and stamped by an Independent Agency as per Specification 3491. Contact Laboratory for additional information.
2402 2405 2557 Many	2. Miscellaneous pieces and Hardware (Galvanized)	3392 3394		3 samples of each item per shipment. Sample critical items only. (Critical items are load bearing, structurally necessary items.)	Three of each type.	Form 02415 or 2403 Will carry "Inspected" tag if sampled and tested prior to shipment. No sample necessary if "Inspected".
2504	3. Insulation Board	3760	Visual Inspection	None		Form 02415 or 2403
2402	4. Laminated Elastomeric Bearing Pads	3741 and Special Provisions	Structural Metals Inspection Tag and field inspection for damage/defects	See Notes		See Project Special Provisions for Sampling, Testing, and Acceptance Requirements.
2402	4. Plain Elastomeric Bearing Pads	3741 and Special Provisions	Structural Metals Inspection Tag and field inspection for damage/defects	See Notes		See Project Special Provisions for Sampling, Testing, and Acceptance Requirements.
2402	4. Cotton Duck Bearing Pads	3741 and Special Provisions	Structural Metals Inspection Tag and field inspection for damage/defects	See Notes		See Project Special Provisions for Sampling, Testing, and Acceptance Requirements.

IX. Geosynthetics, Pipe, Tile, and Precast/Prestressed Concrete

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2402 2422 2501 2503 2506	1. Corrugated Metal Products A. Culvert Pipe Underdrains Erosion control Structures	3225 thru 3229, 3351 and 3399	Visual Inspection: Check for good construction, workmanship, finish requirements and shipping			Form 02415 or 2403 Make certain pipe is Certified on Invoice, retain certificate of compliance and certified mill analysis in project file
2501	1. Corrugated Metal Products B. Structural Plate	3231	Visual Inspection: Invoice shall include notation that material described is in accordance with fabricator's Certificate and Guarantee			Same as 1.A
2501	1. Corrugated Metal Products C. Aluminum Structural Plate	3233				Retain certificate of compliance and certified mill analysis in project file
2503 2506	2. Clay Pipe	3251	No samples required for less than 100 pieces	1 sample per 200 pieces of each size.	Full Size Pipe	Form 02415 or 2403
2501 2503 2506	3. Concrete Pipe A. Reinforced Pipe and Arches, Precast Cattle Pass Units, and Sectional Manhole Units	3236	Field Inspection: Check for damage and defects. Check dimensions as required. Check for producer's "Certified" stamp and signature on the certification document.	1 "companion" cylinder per month per plant during production, or cylinder testing machine, whichever is greater. Call Precast Inspection Engineer at 651-366-5540 for additional information.		Form 02415 or 2403 For Concrete Pipe Both A & B: Product will be certified by producer, only spot checks are done by plant inspector. Make certain the invoice or certification document is signed and the product has the required markings. Maintain Form 2403 or 02415 in project records, showing source of materials and type and quantity used
2501 2503 2506	3. Concrete Pipe Fine Aggregate	3126		1 quality test per month during production for A and B above.	10 kg. (25 lb.)	
2501 2503 2506	3. Concrete Pipe Coarse Aggregate	3137		1 quality test per month during production for A and B above.	10 kg. (25 lb.)	

IX. Geosynthetics, Pipe, Tile, and Precast/Prestressed Concrete (Cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2412	4. Precast/Prestressed Concrete Structures A. Reinforced Precast Box Culvert	3238	1 air test per pour (1st load), One set of cylinders per 25 cubic yards, with a minimum of two cylinders per set. Alternate cylinder acceptance systems may be allowed with the approval of the State Materials Engineer.	1 "companion" cylinder per month per plant during production, or cylinder testing machine, whichever is greater. Call Precast Inspection Engineer at 651-366-5540 for additional information.		Precast/prestressed Concrete Structure (beams, posts, etc.) will be inspected and stamped at plant. Field personnel are responsible for checking for plant inspector's stamp, for shipping/handling damage or defects, and dimensions. An inspection report will be completed by plant personnel and sent to the field personnel.
	Fine Aggregate	3126		1 quality test per month during production.	10 kg. (25 lb.)	
	Coarse Aggregate	3137		1 quality test per month during production.	10 kg. (25 lb.)	
2405	4. Precast/Prestressed Concrete Structures B. Precast/Prestressed Concrete Structure (beams, posts, etc.).	2405	1 air test per pour (1st load), One set of cylinders per 25 cubic yards, with a minimum of two cylinders per set, and one set per beam. Alternate cylinder acceptance systems may be allowed with the approval of the State Materials Engineer.	1 "companion" cylinder per month per plant during production, or cylinder testing machine, whichever is greater. Call Precast Inspection Engineer at 651-366-5540 for additional information.		Precast/prestressed Concrete Structure (beams, posts, etc.) will be inspected and stamped at plant. Field personnel are responsible for checking for plant inspector's stamp, for shipping/handling damage or defects, and dimensions. An inspection report will be completed by plant personnel and sent to the field personnel.
	Fine Aggregate	3126	Gradation: 1 per 150 m ³ (200 Cu. yd.) or fraction thereof. 1 per day of production or 3 per week, whichever is less.	1 gradation and 1 quality test per month during production from a split sample. Include producer's gradation results on sample card.	10 kg (25 lb.)	
	Coarse Aggregate	3137	Gradation: 1 per 75 m ³ (100 Cu. yd.) or fraction thereof. 1 per day of production or 3 per week, whichever is less.	1 gradation and 1 quality test per month during production from a split sample. Include producer's gradation results on sample card.	10 kg (25 lb.)	

IX. Geosynthetics, Pipe, Tile, and Precast/Prestressed Concrete (Cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2506	5. Manholes and Catch Basins (Construction)	2506 3622	Field Inspection: Check for damage and defects. Check dimensions as required. Check for Producer's "Certified" stamp and signature on the certification document.	1 "companion" cylinder per month per plant during production, or cylinder testing machine, whichever is greater. Call Precast Inspection Engineer at 651-366-5540 for additional information.		Form 02415 or 2403 Product will be certified by producer or inspected, tested and stamped at source. Only spot checks are done by plant inspector. Make certain the invoice or certification document is signed and the product has the required markings. Maintain Form 2403 or 02415 in project records, showing source of materials and type and quantity used (bricks, blocks, precast, or combination).
2502	6. Drain Tile (Clay or Concrete)	3276	Visual Inspection	2 samples of each size from each source		
2502 2503	7. Thermoplastic (TP) Pipe ABS and PVC	3245	Obtain Certificate of compliance. Check for approved marking printed on pipe. Field Inspect for damage or defects.			Form 02415 or 2403 See Spec. 3245 for specific AASHTO or ASTM Pipe types are approved under this specification. If perforated, holes should be 5mm - 10 mm (3/16 - 3/8 inch) diameter, two rows for 4", and four rows for 6" diameter; approximately 75 mm (3 inches) on center.
2502	8. Corrugated Polyethylene Pipe – Single wall for edge drains, etc.	3278	Check for markings (AASHTO M 252) Certificate of Compliance. Field Inspect for damage or defects.	No Laboratory tests required		Form 02415 or 2403
2503	9. Sewer Joint Sealing Compound	3724		One per shipment	0.5 liter (1 pt.)	
2412 2501 2503	10. Preformed Plastic Sealer for Pipe	3726 Type b		One from each source	0.3 m (1 ft.)	
2412 2501 2503	11. Bituminous Mastic Joint Sealer for Pipe	3728	Visual Inspection	Sample, if questionable		

IX. Geosynthetics, Pipe, Tile, and Precast/Prestressed Concrete (Cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2105	12. EPS Geofoam	Special Provisions	Visual Inspection Check for yellow aged material, uniformity and dimensions. Weigh 1'x1'x1' cut coupon to verify density every 200 m ³ (250 yd ³)			Form 02415 or 2403
2501 2503	13. Corrugated Polyethylene Pipe – Dual Wall, 12” – 48”	3247				For Specification 3247, Corrugated Polyethylene Pipe (HDPE) manufacturing facilities are required to be reviewed <u>yearly</u> and in compliance with AASHTO's National Transportation Product Evaluation Program (NTPEP) for producers of AASHTO M294 HDPE pipe. To determine if a pipe manufacturing plant is qualified, click on the following link for M294 pipe. http://data.ntpep.org/Module/PIPE/StatusReport.aspx If a plant has a compliant NTPEP audit for AASHTO M294 pipe at the time the pipe is manufactured, then the plant has met requirements. Note that a previous year's audit shall govern until NTPEP issues the next year's audit. A Certificate of Compliance shall be provided in accordance with Specification 1603.

IX. Geosynthetics, Pipe, Tile, and Precast/Prestressed Concrete (Cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2105 2411 2412 2501 2502 2511 2512	14. Geotextile Fabric and Geogrid Reinforcement	3733 and Special Provisions	<p>Inspect for damage and uniformity of texture. Rolls of both geotextile and geotextile wrapped PE Tubing must be wrapped in UV protective plastic. (Usually Black). Obtain Certificate of Compliance</p> <p>If using adhesive for seams, see Approved/Qualified Product List available at the Department's website</p>	<p>(a) 1 per project for pipe wrap or trench lining for Permeable base designs.</p> <p>(b) 1 per 50,000 yd² (40,000 m²) or fraction thereof of each type fabric or geogrid for all other uses.</p> <p>(c) Seam, if required, 1 per project minimum, additional as appropriate.</p> <p>Small Quantity Acceptance</p> <ul style="list-style-type: none"> For fabric totals less than 200 yd² (170 m²) For pipe wrap totals less than 1000 Lin. Ft No sampling required Use Inspection Report for Small Quantities (Form 2403) Check: <ul style="list-style-type: none"> Certificate of Compliance Identifying label on product Geotextile Small Quantity Acceptance List at http://www.dot.state.mn.us/materials/aggregatedocs/gtxlist.pdf 	<p>(a) 10 Lin. Ft. (3 m)</p> <p>(b) 4 yd² (3 m²)*</p> <p>(c) 10 Lin. Ft. (3 m)**</p>	<p>Certificate of Compliance shall state material identification (e.g. Propex 2002, Miragrid 8XT), and minimum average roll values (MARV) for all specified geotextile properties. MARV values must meet the Specification 3733 Types 1 through 7 requirements for the specific application. Submit copy of Certificate with material samples sent to the Materials Laboratory.</p> <p>Submit additional sample(s), if the manufacturer or model of geotextile or geogrid used changes during construction.</p> <p>Sampling shall be by random selection and no more than one sample shall be taken from an individual roll. For type 6 applications (including geogrids), submit pages of Special Provisions that list required material properties. (Type 6 requirements are job specific.) For Modular Block Walls or Reinforced Soil Slopes, submit page(s) of shop drawings that reference geogrid/geotextile to be used (product name) and/or required properties.</p> <p>* Do not sample first full turn of rolled product.</p> <p>** Seam sample to include approximately 3 ft. (1 m) of geosynthetic material on each side of seam (in direction perpendicular to seam).</p>

X. Brick, Stone, and Masonry Units

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2506	1. Brick A. Sewer (clay) and Building	3612 to 3615	Visual Inspection	One sample per 50,000 brick or fraction thereof	6 whole bricks	
2506	1. Brick B. Sewer (Concrete)*	3616	Visual Inspection	One sample per shipment.	6 whole bricks	* Air entrainment required. Obtain air content statement from supplier.
2506	2. Concrete Masonry Units A. For Sewer Construction	3621	Visual Inspection	One sample per shipment	6 whole units	Air entrainment required. Obtain air content statement from supplier.
2411	2. Concrete Masonry Units B. For Modular Block Retaining Walls	Special Provisions	Visual Inspection Check for cracks and broken corners	One sample per 10,000 units or fraction thereof, with a minimum of one sample per product (block) type per contract.*	5 whole units	All lots of block upon delivery shall have Manufacturer or Independent laboratory test results to verify passing both compression and freeze-thaw requirements. * Wall units and cap units are considered separate block types.
2422	3. Reinforced Concrete Cribbing	3661	Concrete control tests Air Tests Visual Inspection if previously tested	One cylinder per 100 units, but not less than 5 cylinders for a given contract. Other materials as required herein.	150 x 300mm (6 x 12 in) Cylinders	Form 02415 or 2403 Will be stamped when inspected prior to shipment.
2511 2512 2577	4. Stone for Masonry or Rip-Rap	3601 and Special Provisions	Visual Inspection Submit Form 02415 unless special testing is specified			Form 02415 or 2403 Each source shall be approved by Project Engineer or Supervisor for quality, prior to use. For questions on quality, contact District Materials or Geology Unit.

XI. Electrical, Roadway Lighting, and Traffic Control Signal Equipment Items

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2545	1. Light Poles (Aluminum, Steel, or Stainless Steel)	3811	Visual Inspection			The Fabricator shall submit "Certificate of Compliance", on a per project basis, to the Project Engineer.
2545 2550 2565	2. Hand Holes (Concrete Precast, PVC with Polymer Concrete Ring and Cover, and Polymer Concrete)	2545 2550 2565				Form 02415 or 2403 Traffic control signals and roadway lighting projects require handholes (HH) and frames and covers to be listed on the MnDOT Approved/Qualified Products List (A/QPL) for signals. For precast concrete HH's and cast iron frame and cover: see VII.6, Drainage Castings and Standard Specifications for Construction 3819.2B
2545 2565	3. Foundation	2545	Slump as needed	1 cylinder per 20 m ³ (25 Cu. yd.)		Rebar is required in concrete foundations as specified in the Contract documents for all traffic control signals and roadway lighting projects.
2545 2565	4. Steel Screw In Foundations	2545 2565	Visual Inspection - verify make and model number as shown on MnDOT's APL	None		Steel Screw in Foundations are listed on MnDOT's Approved/Qualified Products List for Roadway Lighting & Signals
2402 2545 2565	5. Conduit and Fittings A. Metallic B. Liquid Tight Flexible Non Metallic Conduit C. PVC Coated Hot Dipped Galvanized Rigid Steel Conduit	3801 3802 3804 3805	Visual Inspection	None		Form 02415 or 2403 Conduit shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL). Retain Form 02415 or 2403 in Project File
2545 2565	5. Conduit and Fittings D. Non-Metallic (Rigid and HDPE)	3803	Visual Inspection			Form 02415 or 2403 Conduit shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL). Retain Form 02415 or 2403 in Project File. For traffic control signals and roadway lighting projects, specific requirements are contained in the Special Provisions for each project.
2545 2565	6a. Anchor bolts (cast in place)	2545 2565				See section VII, 7.
2545	6b. Anchorages (Drilled In)	2545				See section VII, 8.

XI. Electrical, Roadway Lighting, and Traffic Control Signal Equipment Items (cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2545 2565	7. Miscellaneous Hardware	2545 2565	Visual Inspection	Sample critical items only. One of each item per shipment. (Critical Items are load bearing, structurally necessary items.)		Will carry "Inspected" tag if sampled and tested prior to shipment. No sample necessary if "Inspected". Do not use if not tested. Field sample at sampling rate for laboratory testing. For traffic control signals and roadway light lighting projects, various miscellaneous hardware is required to be listed on the MnDOT Signals and Lighting Approved/Qualified Products Lists (A/QPL). The Contract documents indicate which items must be on the Signals and/or Lighting APL.
2545 2550 2565	8. Cable and Conductors A. Service, Feeder, and Branch Circuit Conductors Roadway Loop Detector Conductors (No Tubing) Underground Service Entrance (USE) cables	3815.2B1 3815.2B2	Visual Inspection	None		Form 02415 or 2403 Make certain the conductors are the type specified. Submit Field Inspection report showing type and quantities used. Shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL) and type where applicable.
2545 2550 2565	8. Cable and Conductors B. Electrical Cables and Single Conductors with Jacket	3815.2B2(b) 3815.2B3 3815.2B5 3815.2C1 3815.2C3 3815.2C4 3815.2C5 3815.2C6 3815.2C7 3815.2C8 3815.2C14	Visual Inspection	1 sample per size per lot	1.5m (5 ft.)	Form 02415 or 2403 Usually inspected at the distributor. Documentation showing project number, reel number(s), and MnDOT test number(s) will be included with each project shipment. If such documentation is not received from Contractor, submit sample for testing along with material certification from manufacturer. <u>Do not</u> use if <u>not</u> tested. Pre-inspected materials will <u>not</u> be tagged; an inspection report will be sent by the MnDOT inspector for each shipment. Project inspectors should verify that the shipping documents agree with this inspection report. Call Steve Grover at 651-366-5540 or Cindy Schellack at 651-366-5543 with questions. For traffic control signals and roadway lighting projects, the Special Provisions for each project contain electrical cable and conductor specifications.
2545 2550 2565	8. Cable and Conductors C. Fiber Optic Cables	3815.2C13	Visual Inspection - verify make and model number as shown in Special Provisions	None		Form 02415 or 2403 Fiber optic cables shall be listed on the MnDOT Approved/Qualified Products List (A/QPL) for Traffic Management Systems/ITS.

XI. Electrical, Roadway Lighting, and Traffic Control Signal Equipment Items (cont.)

Pay Item No.	Kind of Material	Spec. No.	Minimum Required Acceptance Testing (Field Testing Rate)	Minimum Required Sampling Rate for Laboratory Testing	Sample Size	Notes
2545 2565	9. Grounding Electrodes (Ground Rods) (Plate Electrodes)	2545 2565 3818	Visual Inspection	None.		Form 02415 or 2403 Retain Form 02415 or 2403 in project file. Shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL).
2545	10. Luminaires and Lamps	3810				Form 02415 or 2403 Traffic control signals and roadway lighting projects require luminaires and lamps to be listed on the MnDOT Approved/Qualified Products List (A/QPL) for Lighting. The conductors shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL) and type, where applicable.
2545	11. Air Obstruction Lights	3816	Visual Inspection - verify make and model number as shown on MnDOT's APL	None.		Air Obstruction Lights are listed on MnDOT's Approved/Qualified Products List for Roadway Lighting.
2545	12. Navigation Lanterns	3817	Visual Inspection - verify make and model number as shown on MnDOT's APL	None.		Navigation Lanterns are listed on MnDOT's Approved/Qualified Products List for Roadway Lighting.
2545 2565	13. Sponge Rubber Expansion Joint. Used for wrapping expansion and deflection/expansion conduit joints on bridges.	3841	Visual Inspection			
2545	14. Lighting System	2545				Lighting Systems are to be reported as a "System" using the Lighting, Signal, and Traffic Recorder Inspection Report. To be certified by the Project Engineer.
2545	15. Electrical Systems					Electrical Systems are to be reported as a "System" using the Lighting, Signal, and Traffic Recorder Inspection Report. To be certified by the Project Engineer.
2565	16. Traffic Control Signal Systems	2565				Traffic Control Signal Systems are to be reported as a "System" using the Lighting, Signal, and Traffic Recorder Inspection Report. To be certified by the Project Engineer.

Material	SMC Section	Sub Section	Page	Certification Needed
All Base, Surface, and Granular Materials	I. Grading & Base	Many	2-10	Form G&B-104 (24346) include gradation, crushing, bitumen content, and quality test results
Plant Mixed Asphalt (PMA)	II. Bituminous	Many	11-15	All PMA from certified supplier www.dot.state.mn.us/materials/bituminous.html
Shingles	II. Bituminous		12	Contractor shall provide documentation that of all RAS /TOSS (Tear Off Shingle) material is from a MPCA certified supplier.
Bituminous Material	II. Bituminous		16	Only Bituminous Materials from certified asphalt binder sources are allowed for use. The most current list of Certified Sources can at http://www.dot.state.mn.us/products
Emulsified Asphalt	II. Bituminous		16	Use Emulsion for seal coat from a certified emulsified asphalt source.
Portland Cement Fly Ash Ground Granulated Blast Furnace Slag Cement Admixtures	IV. Concrete		24	Concrete Plant Batching Materials: All materials must come from certified approved, or qualified sources. All certified sources must state so on the Bill of Lading Delivery invoice including MnDOT standardized certification statement for cement, flyash, and slag. The most current list of certified/approved sources can be found at www.dot.state.mn.us/products .
Certified Ready Mix	IV. Concrete	Many	25-26	Contact Report from Ready-Mix Plant. All concrete from certified plant including a computerized certificate of compliance with each load.
Plastic for Curing	IV. Concrete		32	A Certificate of Compliance shall be submitted to the Project Engineer from the Manufacturer certifying that the plastic complies with AASHTO M171.
Profiler	IV. Concrete		36	Contractor provides MnDOT certified Inertial Profiler Results for bumps/dips and/or Areas of Localized Roughness for the entire project.
Aggregate for Low Slump Overlays	IV. Concrete		37	Aggregate pit numbers and 1 passing gradation result per fraction per source
Aggregate for Concrete Pavement Repair	IV. Concrete		38	Aggregate pit numbers and 1 passing gradation result per fraction per source
Aggregate for Dowel Bar Retrofits	IV. Concrete		40	Aggregate pit numbers and 1 passing gradation result per fraction per source

Material	SMC Section	Sub Section	Page	Certification Needed
Plant Stock & Landscape Materials	V: Landscaping etc.	2	41	Several certifications
Silt Fence	V: Landscaping etc.	5	42	Certificate of Compliance with MARV values
Flotation Silt Curtain	V: Landscaping etc.	6	42	Manufacturers' certification of compliance
Mulch Type 3	V: Landscaping etc.	12	42	Certified Vendor by Minnesota Crop Improvement Association must be tagged grain straw only on label.
Mulch Type 6 Wood Chips	V: Landscaping etc.	13	43	Emerald Ash Borer Compliance Agreement with the MDA
Seeds	V: Landscaping etc.	14	43	Certified Vendor by Minnesota Crop Improvement Association must be tagged.
Seeds - Native	V: Landscaping etc.	14	43	Certified Vendor by Minnesota Crop Improvement Association must be tagged.
Sod	V: Landscaping etc.	15	43	A certified tag by Minnesota Crop Improvement Association for Salt tolerant sod. A certificate of Compliance for all other types of sod listing grass varieties.
Compost	V: Landscaping etc.	16	43	APL/QPL with certified test reports.
Waterproofing material membrane waterproof system	VI: Chemical Items		44	Certificate and test results
Waterborne latex traffic marking paint	VI: Chemical Items		45	Certificate of Compliance
Epoxy traffic paint	VI: Chemical Items		45	Certificate of Compliance
Traffic marking paint	VI: Chemical Items		45	Certificate of Compliance
Non-traffic marking paint	VI: Chemical Items		45	Certificate of Compliance
Bridge structural steel paint	VI: Chemical Items		46	Certificate of Compliance
Exterior masonry paint	VI: Chemical Items		46	Certificate of Compliance
Noise wall stain	VI: Chemical Items		46	Certificate of Compliance
Drop-on glass beads	VI: Chemical Items		46	Certificate of Compliance
Pavement marking tape	VI: Chemical Items		46	Certificate of Compliance
Steel sign posts	VII: Metallic	2	48	Certification of domestic source if applicable under 1601
Posts for traffic or fence	VII: Metallic	3A	48	Certification of domestic source if applicable under 1601 For fence: Fence certification form (Optional)
Fence components	VII: Metallic	3B	48	Fence certification form (Optional)
Fence gates	VII: Metallic	3C	48	Fence certification form (Optional)
Fence barbed wire fabric	VII: Metallic	3D	48	Fence certification form (Optional)
Fence woven wire fabric	VII: Metallic	3E	49	Fence certification form (Optional)
Fence chain link wire fabric	VII: Metallic	3F	49	Fence certification form (Optional)
Reinforcing steel uncoated bars	VII: Metallic	5A	49	Certificate of Compliance & certified mill analysis
Reinforcing steel epoxy bars	VII: Metallic	5B	50	Inspected tag or Certificate of Compliance & certified mill analysis
Steel Fabric	VII: Metallic	5E	50	Certificate of Compliance
Dowel Bars	VII: Metallic	5F	50	Certificate of Compliance
Pre or post tensioning strand	VII: Metallic	5G	51	Mill analysis
Anchor rods & Structural Fasteners	VII: Metallic	7, 8	51	Yearly MnDOT passing test report

Material	SMC Section	Sub Section	Page	Certification Needed
Timber & lumber	VIII: Miscellaneous	1	55	Certified on invoice
Bearing pads	VIII: Miscellaneous	4	55	Certificate of Compliance
Corrugated metal pipe	IX: Geosynthetics & Pipe	1A	56	Certified on invoice
Corrugated metal structural plate	IX: Geosynthetics & Pipe	1B	56	Certified on invoice
Corrugated metal aluminum plate	IX: Geosynthetics & Pipe	1C	56	Fabricator's Certificate and guarantee
Concrete pipe	IX: Geosynthetics & Pipe	3A	56	Certified stamp and certification document
Precast box culverts	IX: Geosynthetics & Pipe	4A	57	Stamped & field inspection report
Prestressed beams & posts, etc.	IX: Geosynthetics & Pipe	4B	57	Stamped & field inspection report
Manholes & catch basins	IX: Geosynthetics & Pipe	5	58	Certification document or stamped
Thermoplastic pipe ABS & PVC	IX: Geosynthetics & Pipe	7	58	Certificate of Compliance
Corrugated PE Pipe: Single wall – edge drains	IX: Geosynthetics & Pipe	8	58	Certificate of Compliance
Corrugated PE Pipe: dual wall – 12"-48"	IX: Geosynthetics & Pipe	13	59	Certificate of Compliance
Geotextile fabric	IX: Geosynthetics & Pipe	14	60	Manufacturers' Certification of compliance
Brick sewer concrete	X: Brick, Stone, Masonry	1B	61	Air content statement
Concrete masonry units	X: Brick, Stone, Masonry	2A	61	Air content statement
Light poles	XI: Electrical & Signal	1	62	Certificate of Compliance
Cable & Conductors	XI: Electrical & Signal	7	62	Usually inspected at the distributor. Documentation showing project number, reel number(s), & MnDOT test number(s) will be included with each project shipment. If not received from Contractor, submit sample for testing along with manufacturers' material certification.
Electrical systems	XI: Electrical & Signal	14	64	Electrical Systems are to be reported as a "System" using the Lighting, Signal, and Traffic Recorder Inspection Report.
Traffic control signal systems	XI: Electrical & Signal	15	64	Traffic Control Signal Systems are to be reported as a "System" using the Lighting, Signal, and Traffic Recorder Inspection Report.

Section	Page	Section Name	Contact	Phone
Part I	Page 1	Grading, Base & Reclamation – Specifications 2105, 2106, 2118, 2211, 2212, 2215, and 2221	Terry Beaudry John Bormann Melissa Cole	(651) 366-5456 (651) 366-5596 (651) 366-5432
Website: www.dot.state.mn.us/materials/gradingandbase.html				
Part II	Page 9	Bituminous - Spec. 2360	John Garrity	(651) 366-5577
Part II C	Page 14	Asphalt Binder	Allen Gallistel Jason Szondy	(651) 366-5545 (651) 366-5549
Website: www.dot.state.mn.us/materials/bituminous.html				
Part III	Page 16	Bituminous Specialty Items	Terry Beaudry Greg Schneider Melissa Cole Tom Wood	(651) 366-5456 (651) 366-5403 (651) 366-5432 (651) 366-5573
Part IV	Page 21	Concrete – Aggregates and Mix Design Concrete – Certified Ready Mix Concrete Concrete – Paving Concrete – Bridges Concrete – Pavement Rehabilitation	Wendy Garr Wendy Garr Rob Golish Ron Mulvaney Gordy Bruhn	(651) 366-5423 (651) 366-5423 (651) 366-5576 (651) 366-5575 (651) 366-5523
Website: www.dot.state.mn.us/materials/concrete.html				
Part V	Page 39	Landscaping and Erosion Control Items Erosion Control Landscaping Wood Chips	Lori Belz Scott Bradley Tina Markeson	(651) 366-3607 (651) 366-4612 (651) 366-3619
Part VI	Page 42	Chemical Items	Allen Gallistel Dave Iverson	(651) 366-5545 (651) 366-5550
Part VII	Page 45	Metallic Materials and Metal Products Sampling Test Results Bridge Structural Metals	Steve Grover Laboratory Todd Niemann	(651) 366-5540 (651) 366-5560 (651) 366-4567
Part VIII	Page 53	Miscellaneous Materials Sections 1 thru 3 Section 4 Test Results	Steve Grover Todd Niemann Laboratory	(651) 366-5540 (651) 366-4567 (651) 366-5560
Part IX	Page 54	Geosynthetics, Pipe, Tile, and Precast/Prestressed Concrete Sections 1 thru 11, & 13 Section 12 Section 14 Test Results	Steve Grover Rich Lamb Blake Nelson Laboratory	(651) 366-5540 (651) 366-5595 (651) 366-5599 (651) 366-5560
Part X	Page 59	Brick, Stone and Masonry Units/Modular Retaining Wall Blocks Sections 1, 2A,3, & 4 Section 2B Test Results	Steve Grover Blake Nelson Laboratory	(651) 366-5540 (651) 366-5599 (651) 366-5561
Part XI	Page 60	Electrical & Signal Sections 1, 8-11 Section 2, 4- 7 Section 3 Test Results	Susan Zarling Steve Grover Wendy Garr Laboratory	(651) 234-7052 (651) 366-5540 (651) 366-5423 (651) 366-5560


Form Index

Grading and Base	
Form No.	Form Name
G&B – 001	Grading & Base Report
G&B – 002	Random Sampling Acceptance
G&B – 003	Weekly Grading and Base Testing Summary Report
G&B – 101	Sieve Analysis
G&B – 103	Percent Crushing Report
G&B – 104	Certificate of Aggregates & Granular Materials
G&B – 105	Moisture Test
G&B – 203	(Table 2105-6, 2106-6) DCP Penetration Index Method
G&B – 204	(Table 2211-3) DCP Penetration Index Method
G&B – 205	2215 DCP Penetration Index Form – Full Depth Reclamation
G&B – 303	Moisture - Density (Proctor) Test
G&B – 304	Relative Density Test
G&B – 305	Estimated Optimum Moisture Content
G&B – 401	Depth Report – FDR, CIR, SFDR
Concrete	
Form No.	Form Name
2152	Concrete Batching Report
2162	Concrete Test Beam Data
2409	ID Card Concrete Test Cylinder
2448	Weekly Concrete Report
2449	Weekly Concrete Aggregate Report (QC/QA)
21412	Weekly Report of “Low Slump Concrete”
21763	Concrete Aggregate Worksheet
21764	Concrete Aggregate Worksheet JMF - Paving
21765	Concrete Aggregate Worksheet JMF
24143	Weekly Certified Ready-Mix Plant Report (Verification)
24300	ID Card Cement Samples
24308	ID Card Fly Ash Samples
24327	Field Core Report
	Concrete W/C Ratio Calculation Worksheet
	Incentive/Disincentive Smoothness Worksheet
Bituminous	
Form No.	Form Name
2413	Asphalt Sample Identification Card
Miscellaneous	
Form No.	Form Name
2410	Sample ID Card
02415	Inspection Report for Small Quantities (May be used for documentation or use another method to capture required documentation)
2403	Inspection Report for Small Quantities (May be used for documentation or use another method to capture required documentation)
	Certification Form for Type of Fence used (right side of page at website location below) www.dot.state.mn.us/materials/lab.html

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material	polyethylene		forest green custom colors available
tensile strength	145/124 lbs/in		
weight	4.9oz		
shading	85%		
fabrication	3 ply reinforced hemlines		
grommets	every 24in		

† 773-927-4120
f 773-650-6046

info@puttermanathletics.com
www.puttermanathletics.com
toll-free 800-621-0146

4834 s oakley ave
chicago, il 60609

**NOTICE TO BIDDERS
SUSPENSIONS/DEBARMENTS**

January 15, 2016
Page 1 of 3

DEPARTMENT OF TRANSPORTATION

NOTICE OF SUSPENSION

NOTICE IS HEREBY GIVEN that MnDOT has ordered that the following vendors be suspended for a period of six (6) months, effective January 14, 2016 until July 14, 2016:

- Jeffrey and Laurie Plzak doing business as Fibertech Incorporated¹, and its affiliates, Loretto, MN

NOTICE OF DEBARMENT

NOTICE IS HEREBY GIVEN that MnDOT has ordered that the following vendors be debarred for a period of three (3) years, effective May 6, 2013 until May 6, 2016:

- Gary Francis Bauerly and his affiliates, Rice, MN
- Gary Bauerly, LLC and its affiliates, Rice, MN
- Watab Hauling Co. and its affiliates, Rice, MN

NOTICE IS HEREBY GIVEN that MnDOT has ordered that the following vendors be debarred for a period of three (3) years, effective September 17, 2014 until September 17, 2017:

- Jeffrey Plzak and his affiliates, Loretto, MN
- Laurie Plzak and her affiliates, Loretto, MN
- Honda Electric Incorporated and its affiliates, Loretto, MN
- Jeffrey and Laurie Plzak doing business as Honda Electric Logistics, and its affiliates, Loretto, MN

NOTICE IS HEREBY GIVEN that MnDOT has ordered that the following vendors be debarred for a period of three (3) years, effective January 12, 2015 until January 12, 2018:

- Marlin Dahl, Granada, MN
- Dahl Trucking, Elmore, MN
- Elmore Truck and Trailer, Inc., Elmore, MN

Minnesota Statute section 161.315 prohibits the Commissioner, counties, towns, or home rule or statutory cities from awarding or approving the award of a contract for goods or services to a person who is suspended or debarred, including:

- 1) any contract under which a debarred or suspended person will serve as a subcontractor or material supplier,
- 2) any business or affiliate which the debarred or suspended person exercises substantial influence or control, and
- 3) 3) any business or entity, which is sold or transferred by a debarred person to a relative or any other party over whose actions the debarred person exercises substantial influence or control, remains ineligible during the duration of the seller's or transfer's debarment.

¹ This notice refers only to Fibertech Incorporated of Loretto, Minnesota and is not to be confused with any other businesses not controlled by Jeffrey and Laurie Plzak, including: FiberTech of Parkers Prairie, Minnesota; Fiber Tech Productions of Nisswa, Minnesota; Fiber Technologies Solutions of Georgia; or Fiber-Tech Industries of Cadillac, Michigan.

**NOTICE TO BIDDERS
SUSPENSIONS/DEBARMENTS**

January 15, 2016
Page 2 of 3

DEPARTMENT OF ADMINISTRATION

As of the date of this notice and in accordance with Minnesota Rules 1230.1150, the Minnesota Department of Administration has debarred and disqualified the following persons and businesses from entering into or receiving a State of Minnesota contract:

NAME	DATE OF SUSPENSION
Devos, Ltd. d/b/a Guaranteed Returns Dean Volkes, Donna Fallon & Ronald Carlino 100 Colin Drive Holbrook, NY	December 5, 2014 through December 31, 2099
NAME	DATE OF DEBARMENT
Best Electric Thomas Clifton and Earl Standafer 9909 S. Shore Drive #155 Plymouth, MN 55441	May 22, 2015 through May 21, 2018 (eligible for reinstatement on May 21, 2019)
Best Used Trucks of Minnesota, Inc. Jason W. Leas 635 Marin Avenue Crookston, MN 56716	Nov. 20, 2012 through Nov. 20, 2015 (eligible for reinstatement on Nov. 20, 2016)
C & S Electric, Inc. Thomas Clifton and Earl Standafer 9909 S. Shore Drive #155 Plymouth, MN 55441	May 22, 2015 through May 21, 2018 (eligible for reinstatement on May 21, 2019)
Dahl Trucking Marlin Dahl 305 Highway 169 South Elmore, MN 56027	Aug.19, 2014 through January 12, 2018
Elmore Truck and Trailer Repair, Inc. Marlin Dahl 305 Highway 169 South Elmore, MN 56027	Aug.19, 2014 through Jan. 12, 2018 (eligible for reinstatement on Jan. 12, 2019)
Groundscape Maintenance, Inc. Rob Sievers 1160 County Road 83 Maple Plain, MN 55359	February 19, 2015 through February 19, 2016 (eligible for reinstatement February 19, 2017)
Honda Electric, Inc. Jeffrey and Laurie Plzak 5075 Nielsen Circle, P.O. Box 236 Loretto, MN 55357	July 24, 2014 through July 23, 2017 (eligible for reinstatement on July 23, 2018)
McCaa, Webster & Associates, Inc. Sammie McCaa 2751 Hennepin Avenue South, #301 Minneapolis, MN 55408-1002	May 1, 2014 through April 30, 2015 (eligible for reinstatement on April 30, 2016)
MG Carlson Construction Company, Inc. Martin Gerald Carlson 701 East First Street Fort Worth, TX 76102-3276	Sept. 5, 2014 through October 5, 2015 (eligible for reinstatement on April 5, 2016)
Ocuture, LLC 11930 Camby Park Drive Houston, TX 77047	Dec. 15, 2014 through Dec. 15, 2015 (eligible for reinstatement Dec. 15, 2016)
Ramco Heating and Air Conditioning Mark and Cheryl Ramquist 605 Ash Street Downing, WI 54734	March 11, 2015 through March 11, 2017 (eligible for reinstatement March 11, 2017)

NOTICE TO BIDDERS
SUSPENSIONS/DEBARMENTS

January 15, 2016
Page 3 of 3

St. Cloud Lawn & Landscaping, Inc. Pat Murphy 10602 County Road 2 Brainerd, MN 56401	February 20, 2015 through February 20, 2016 (eligible for reinstatement on Feb. 20, 2017)
TAC Construction Solutions, Inc. Christina Woods 31767 Deacons Way Pequot Lakes, MN 56472	August 19, 2014 through August 19, 2016 (eligible for reinstatement on August 19, 2017)
Watab Hauling Co. Gary Francis Bauerly 9695 Deerwood Rd. NE Rice, MN 56367	Jan. 14, 2013 through Jan. 14, 2016 (eligible for reinstatement on Jan. 14, 2017)

Minnesota Administrative Rule part 1230.1150, subpart 6 requires the Materials Management Division to maintain a master list of all suspensions and debarments. The master list must retain all information concerning suspensions and debarments as a public record for at least three (3) years following the end of a suspension or debarment. Refer to the following website for the master list:
<http://www.mmd.admin.state.mn.us/debarredreport.asp>.

If the project is financed in whole or in part with federal funds, refer to the following website for vendors debarred by federal government agencies: <http://sam.gov>.

This list does not include preclusion actions taken by cities, counties or local authorities. Consult local authorities to ensure that contractors, subcontractors and materials suppliers are not currently suspended or debarred.

NOTICE TO BIDDERS

Minnesota Statutes that require prompt payment to subcontractors:

471.425 Prompt payment of local government bills.

Subd. 1. Definitions. For the purposes of this section, the following terms have the meanings here given them.

(d) "Municipality" means any home rule charter or statutory city, county, town, school district, political subdivision or agency of local government. "Municipality" means the metropolitan council or any board or agency created under chapter 473.

Subd. 4a. Prompt payment to subcontractors.

Each contract of a municipality must require the prime contractor to pay any subcontractor within ten days of the prime contractor's receipt of payment from the municipality for undisputed services provided by the subcontractor. The contract must require the prime contractor to pay interest of 1-1/2 percent per month or any part of a month to the subcontractor on any undisputed amount not paid on time to the subcontractor. The minimum monthly interest penalty payment for an unpaid balance of \$100 or more is \$10. For an unpaid balance of less than \$100, the prime contractor shall pay the actual penalty due to the subcontractor. A subcontractor who prevails in a civil action to collect interest penalties from a prime contractor must be awarded its costs and disbursements, including attorney's fees, incurred in bringing the action.

HIST: 1985 c 136 s 5; 1995 c 31 s 1



**Minnesota Pollution
Control Agency**

520 Lafayette Road North
St. Paul, MN 55155-4194

SWPPP Checklist

Construction Stormwater Permit Program

Doc Type: Stormwater Pollution Prevention Plan (SWPPP)

C000

Background: This checklist is used by Minnesota Pollution Control Agency (MPCA) staff for Stormwater Pollution Prevention Plan (SWPPP) reviews. It is provided as an additional resource intended for SWPPP designers for construction projects to assure all required elements of a SWPPP are included. Use of this checklist will help you to determine if your SWPPP is complete, though not all checklist items are applicable to all projects. This checklist can be used for all size projects; however, the guidance document "Stormwater Compliance Assistance Toolkit for Small Construction Operators," contains a SWPPP template designed specifically for small site projects. This guidance is available on the MPCA Construction Stormwater webpage at: <http://www.pca.state.mn.us/wfhya5b>.

Note - This checklist is for your information and use is voluntary. The checklist does not need to be returned to the MPCA.

Review Information

Applicant: _____ Project name: _____

Application date: _____ Reviewer name: _____

Reason for review:

Yes N/A

☐ ☐ Mandatory (over 50 acres and discharging to a special or impaired water)

☐ ☐ Random audit

☐ ☐ Enforcement case

Case lead: _____

Notes

SWPPP contains a combination of:

Yes N/A

☐ ☐ Narrative

☐ ☐ Plan sheets

☐ ☐ Standard detail sheets (where appropriate)

SWPPP Information (does the Narrative contain the following)

Yes N/A

☐ ☐ Describe the nature of the construction activity?

☐ ☐ Address the potential for a discharge of sediment and/or other potential pollutants from the site?

☐ ☐ Propose erosion prevention and sediment control Best Management Practices (BMPs) to control the discharge of sediment and/or other potential pollutants (IV.F) from the site.

☐ ☐ Identify the person knowledgeable and experienced who will oversee the implementation of the SWPPP; the installation, inspection, and maintenance of the BMPs.

☐ ☐ Identify the entity (name or title) responsible for performing future Operations and Maintenance (O&M) of the permanent stormwater management system?

☐ ☐ List the chain of responsibility for SWPPP implementation for all operators on the site?

☐ ☐ Identify the training requirements are satisfied.

☐ ☐ Include the designs and calculations for BMPs.

☐ ☐ Describe installation timing for all Erosion Sediment Control (ESC) Best Management Practices (BMPs)?

☐ ☐ Describe procedures to amend the SWPPP and establish additional temporary ESC BMPs as necessary for site conditions?

☐ ☐ Describe final stabilization methods for all exposed areas? (may be in narrative or on plan sheets)

☐ ☐ Identify stormwater management measures needed to mitigate impacts identified as a result of environmental, historical, archaeological, or rare species reviews conducted for the project?

☐ ☐ Identify additional measures being taken to protect Drinking Water Supply Management Areas?

☐ ☐ If site discharges to special water or impaired reach, identify any site areas discharging to the special or impaired reach?

☐ ☐ Methods used to minimize soil compaction and preserve topsoil must be described.

☐ ☐ Identify construction areas that are adjacent to and drain to Public Waters for which the Minnesota Department of Natural Resources (DNR) has promulgated "work in waters restrictions" during specified fish spawning time frames.

- ☐ ☐ In designing the stormwater controls, the SWPPP must account for expected amount, frequency, intensity, and duration of precipitation.
- ☐ ☐ In designing the stormwater controls, the SWPPP must account for nature of stormwater runoff and run-on at the site, including factors such as expected flow from impervious surfaces, slopes, and site drainage features.
- ☐ ☐ In designing the stormwater controls, the SWPPP must account for the range of soil particle sizes expected to be present on the site.
- ☐ ☐ Identify any specific chemicals and the chemical treatment systems that may be used for enhancing the sedimentation process on the site, and how compliance will be achieved with the permit requirements.
- ☐ ☐ For design requirements or SWPPP components where Permittee determines that compliance with the requirement is infeasible; the SWPPP must document that determination and the substitute BMPs.

Comments: _____

Do plan sheets identify:

- | Yes | N/A | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Existing and final grades. |
| <input type="checkbox"/> | <input type="checkbox"/> | Locations and types of all temporary and permanent (including infiltration areas) ESC BMPs. |
| <input type="checkbox"/> | <input type="checkbox"/> | Stormwater flow directions and surface water divides for all pre- and post-construction drainage areas. |
| <input type="checkbox"/> | <input type="checkbox"/> | Impervious areas (Pre- and Post-Construction). |
| <input type="checkbox"/> | <input type="checkbox"/> | Soil types. |
| <input type="checkbox"/> | <input type="checkbox"/> | Locations of potential pollutant-generating activities. |
| <input type="checkbox"/> | <input type="checkbox"/> | Locations of areas not to be disturbed (buffer zones). |
| <input type="checkbox"/> | <input type="checkbox"/> | Tabulated quantities of all erosion prevention and sediment control BMPs. |
| <input type="checkbox"/> | <input type="checkbox"/> | Location of areas where construction will be phased to minimize duration of exposed soil areas. |
| <input type="checkbox"/> | <input type="checkbox"/> | Areas of steep (3:1 or greater slope). |
| <input type="checkbox"/> | <input type="checkbox"/> | Locations of all wetlands, surface waters, and storm ponds that will receive pre- or post-construction site runoff. (If they do not fit on the plan sheets, use an arrow to note the direction and distance). |

Comments: _____

Standard plates or specifications:

- | Yes | N/A | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Are standard plates or specifications included where appropriate? |

Part III - Stormwater Discharge Design Requirements

- | Yes | N/A | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | For any stormwater flow that will be channelized at the site, the stormwater controls must be designed to control both peak flowrates and total stormwater volume to minimize erosion at outlets and to minimize downstream channel and streambank erosion. |
| <input type="checkbox"/> | <input type="checkbox"/> | Are Temporary Sediment Basins required on site? (10 acres draining to common location or 5 acres App. A) |
| If Yes, are they: | | |
| <input type="checkbox"/> | <input type="checkbox"/> | Adequately sized – 2-year, 24-hour storm, minimum 1,800 feet ³ /acre; or no calculative minimum 3,600ft ³ /acre? |
| <input type="checkbox"/> | <input type="checkbox"/> | Designed to prevent short circuiting? |
| <input type="checkbox"/> | <input type="checkbox"/> | Are outlets designed to remove floating debris? |
| <input type="checkbox"/> | <input type="checkbox"/> | Are outlets designed to allow complete drawdown? |
| <input type="checkbox"/> | <input type="checkbox"/> | Are outlets designed to withdraw water from the surface? |
| <input type="checkbox"/> | <input type="checkbox"/> | Do outlets have energy dissipation? |
| <input type="checkbox"/> | <input type="checkbox"/> | Have a stabilized emergency spillway? |
| <input type="checkbox"/> | <input type="checkbox"/> | Sediment Basins must be situated outside of surface waters and any natural buffers. |
| <input type="checkbox"/> | <input type="checkbox"/> | If compliant temporary sediment basin is not feasible due to site limitations, equivalent sediment controls described. |

Comments: _____

Yes N/A

☐ ☐

Permanent Stormwater Management System

Yes N/A

☐ ☐

Is calculation of new impervious surface included in SWPPP?

☐ ☐

Is the project located in and complying with Municipal Separate Storm Sewer Systems (MS4) Permit permanent treatment in lieu of the permanent treatment requirements of this permit?

☐ ☐

Are calculations for permanent stormwater management system included (water quality volume of one inch of runoff to be retained on site)?

☐ ☐

If infiltration is prohibited, other methods of volume reduction are considered.

☐ ☐

If infiltration is prohibited, the remainder of the water quality volume is treated by a wet sedimentation basin, filtration system, regional ponding or equivalent methods prior to the discharge of stormwater to surface waters.

☐ ☐

Does the proximity to bedrock preclude the installation of any of the permanent stormwater management practices?

If yes, has effort been made to provide some treatment using alternatives?

Yes N/A

☐ ☐

Grassed swales

☐ ☐

Filtration systems

☐ ☐

Smaller ponds

☐ ☐

Grit chambers

Comments:

Which method of permanent stormwater treatment has been selected?

Yes N/A

☐ ☐

Infiltration or filtration (infiltration basins, infiltration trenches, rainwater gardens, sand filters, organic filters, bioretention areas, and enhanced swales, dry storage ponds with underdrain discharge, off-line retention areas, and natural depressions).

Yes N/A

☐ ☐

Is infiltration/filtration appropriate to the site and land uses?

☐ ☐

Has the system been designed to maintain pre-existing conditions (e.g., do not breach a perched water table that is supporting a wetland)?

☐ ☐

Requirements to avoid excavation of the infiltration system until drainage area constructed and stabilized?

☐ ☐

Are rigorous sediment and erosion controls planned to keep sediment and runoff away from the system?

☐ ☐

Is a pretreatment device planned?

☐ ☐

Is the filtration system designed to remove at least 80% of total suspended solids?

☐ ☐

Is the system sufficient to infiltrate or filter the appropriate water quality volume of one inch?

☐ ☐

Can water quality volume be discharged through the infiltration/filtration system in 48 hours or less?

☐ Additional flows must bypass and be routed through stabilized discharge point.

☐ ☐

Is there a way to visually verify the system is operating as designed?

☐ ☐

Has appropriate testing been conducted to ensure a minimum of three feet of separation to the seasonal water table and/or bedrock?

☐ ☐

Are calculations/computer model results included to demonstrate the design and adequacy of the infiltration or filtration system?

☐ ☐

Is adequate maintenance access provided?

☐ ☐

Is there a maintenance plan that identifies who will perform future maintenance?

☐ ☐

Infiltration is prohibited when the infiltration system will receive discharges from or be constructed in:

☐ Areas where vehicle fueling and maintenance occur.

☐ Areas with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock.

☐ Areas where industrial facilities are not authorized to infiltrate industrial stormwater under an National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Industrial Stormwater Permit issued by the MPCA.

☐ Areas where high levels of contaminants in soil or groundwater will be mobilized by the infiltrating stormwater.

☐ Areas of predominately Hydrological Soil Group D (clay) soils unless allowed by a local unit of government with a current MS4 Permit.

☐ Areas within 1,000 feet up-gradient, or 100 feet down-gradient of active karst features unless allowed by a local unit of government with a current MS4 permit.

- ☐ Areas within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, subp. 13., unless allowed by a local unit of government with a current MS4 Permit.
- ☐ Areas where soil infiltration rates are more than 8.3 inches per hour unless soils are amended to slow the infiltration rate below 8.3 inches per hour or as allowed by a local unit of government with a current MS4 Permit.

Comments: _____

Yes N/A

☐ ☐

Wet sedimentation basin:

Yes N/A

- ☐ ☐ Permanent volume of 1800 feet below outlet pipe for each acre draining.
- ☐ ☐ Minimum depth of 3 feet; maximum depth of 10 feet.
- ☐ ☐ Configured so scour or resuspension is minimized.
- ☐ ☐ Water quality volume is one inch (or remainder of volume not reduced) of runoff from new impervious surfaces.
- ☐ ☐ Basin outlets designed to discharge at less than 5.66 cubic feet per second (cfs) per acre of pond.
- ☐ ☐ Basin outlets designed to prevent short circuiting.
- ☐ ☐ Basin outlets designed to prevent discharge of floatables.
- ☐ ☐ Stabilized emergency overflow.
- ☐ ☐ Is adequate maintenance access provided?
- ☐ ☐ Location is outside of surface waters and any permanent natural buffers established under Appendix A.C.3
- ☐ ☐ Designed to avoid draining water from wetlands (unless the impact to the wetland is in compliance with the requirements of Appendix A.D).

Comments: _____

Yes N/A

☐ ☐

Regional ponds:

Yes N/A

- ☐ ☐ Is written authorization from owner of regional pond included in SWPPP?
- ☐ ☐ Is there no significant degradation of waterways between project and regional pond?
- ☐ ☐ Does regional pond design conform to the permit requirements for wet sedimentation basin?

Record Retention Requirements must be addresses in the SWPPP:

- ☐ ☐ The SWPPP including, all changes to it, and inspections and maintenance records must be kept at the site during construction by the Permittee(s) who has operational control of that portion of the site.

Comments: _____

Part IV - Construction Activity Requirements

Yes N/A

☐ ☐

Addresses erosion prevention measures:

Yes N/A

- ☐ ☐ Areas delineated on plans that are not to be disturbed or are areas where disturbance will be minimized.
- ☐ ☐ Areas of steep slopes will minimize disturbance or other techniques to minimize destabilization of steep slopes.
- ☐ ☐ Has appropriate construction phasing been implemented?
- ☐ ☐ Do exposed soils have erosion protection/cover initiated immediately and finished within 14 days (or 7 days Appendix A)?
- ☐ ☐ For DNR Public waters with "work in water restrictions" during specified fish spawning time frames, all exposed soil areas that are adjacent to and drain to these waters must complete the stabilization activities within 24 hours during the restriction period.

- ☐ ☐ Design includes stormwater conveyance channels to route water around unstabilized areas on the site and to reduce erosion, unless infeasible?
- ☐ ☐ Are wetted perimeters of ditches stabilized within 200 feet of surface water within 24 hours?
- ☐ ☐ Temporary or permanent ditches or swales that are being used as a sediment containment system during construction must be stabilized within 24 hours after no longer being used as a sediment containment system.
- ☐ ☐ Do pipe outlets have energy dissipation within 24 hours of connecting?
- ☐ ☐ Discharges from stormwater controls are directed to vegetated areas of the site (including any natural buffers) unless infeasible.

Comments: _____

Yes N/A

☐ ☐ **Addresses sediment control measures:**

Yes N/A

- ☐ ☐ Are sediment control practices established on down gradient perimeters and upgradient of any buffer zones?
- ☐ ☐ Are all inlets protected?
- ☐ ☐ Do stockpiles have sediment control and directed to be placed in areas away from surface waters or natural buffers?
- ☐ ☐ Do construction site entrances minimize street tracking?
- ☐ ☐ Plans to minimize soil compaction and, unless infeasible to preserve topsoil.
- ☐ ☐ 50 foot natural buffers preserved or (if not feasible) provide redundant sediment controls when a surface water is located within 50 feet of the project's earth disturbances and drains to the surface water.

Comments: _____

Yes N/A

☐ ☐ **Addresses dewatering and basin draining:**

Yes N/A

- ☐ ☐ Is there a plan in place for dewatering to prevent nuisance conditions, erosion, or inundation of wetlands?
- ☐ ☐ If using filters with backwash water, either haul the backwash water away for disposal, return the backwash water to the beginning of the treatment process, or incorporate the backwash water into the site in a manner that does not erode into runoff.

Comments: _____

Yes N/A

☐ ☐ **Addresses inspections and maintenance:**

Yes N/A

- ☐ ☐ Identifies the person who will oversee the BMP inspection and maintenance?
- ☐ ☐ Inspections performed once every 7 days.
- ☐ ☐ Inspections performed within 24 hours of a rain event greater than 0.5 in/24 hours.
- ☐ ☐ Inspection and Maintenance records include:

Yes N/A

- ☐ ☐ Date and time of inspection.
- ☐ ☐ Name of person(s) conducting inspections.
- ☐ ☐ Finding of inspections, including the specific location where corrective actions are needed.
- ☐ ☐ Corrective actions taken (including dates, times, and party completing maintenance activities).
- ☐ ☐ Date and amount of rainfall events greater than 0.5 in/24 hours.
- ☐ ☐ Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, or by a weather station that is within one mile or by a weather reporting system.
- ☐ ☐ Requirements to observe, describe, and photograph any discharge that may be occurring during the inspection.

Yes N/A

☐
☐

Maintenance performed

Yes N/A

☐
☐

All discovered nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs within 24 hours after discovery, or as soon as field conditions allow.

☐
☐

Silt fence repaired/replaced/supplemented when nonfunctional, or one-half full; within 24 hours.

☐
☐

Sediment basins drained and sediment removed when reaches one-half storage volume; within 72 hours.

☐
☐

Sediment removed from surface waters within seven days.

☐
☐

Construction site exits inspected, tracked sediment removed within 24 hours.

☐
☐

All infiltration areas must be inspected for sediment from ongoing construction activity and that equipment is not being driven across the infiltration area.

Comments:

Yes N/A

☐
☐

Addresses pollution prevention management measures:

Yes N/A

☐
☐

Storage, handling, and disposal of construction products, materials, and wastes.

☐
☐

Fueling and maintenance of equipment or vehicles; spill prevention and response.

☐
☐

Vehicle and equipment washing.

☐
☐

No engine degreasing allowed on site.

☐
☐

Containment of Concrete and other washout waste.

☐
☐

Portable toilets are positioned so that they are secure.

Comments:

Yes N/A

☐
☐

Addresses final stabilization:

Yes N/A

☐
☐

Stabilization by uniform perennial vegetative cover (70% density of its expected final growth).

☐
☐

The permanent stormwater management system is constructed, meets all requirements, and is operating.

☐
☐

Drainage ditches stabilized.

☐
☐

All temporary synthetic and structural BMPs removed.

☐
☐

Clean out sediment from conveyances and sedimentation basins (return to design capacity).

☐
☐

If residential – temporary erosion protection and down gradient perimeter control has been completed and distribute homeowner factsheet.

☐
☐

Submit Notice of Termination (NOT) to the MPCA.

Comments:

Requirements of Appendix A

Yes N/A

☐
☐

Does this site drain to a discharge point on the project that is within one mile of a Special or Impaired Water?

Yes	N/A	Which type of special water?	BMP category
<input type="checkbox"/>	<input type="checkbox"/>	Wilderness Areas	C.1, C.2, C.3
<input type="checkbox"/>	<input type="checkbox"/>	Mississippi River	C.1, C.2, C.3
<input type="checkbox"/>	<input type="checkbox"/>	Scenic or Recreational river	C.1, C.2, C.3
<input type="checkbox"/>	<input type="checkbox"/>	Lake Superior	C.1, C.2, C.3
<input type="checkbox"/>	<input type="checkbox"/>	Lake Trout Lakes	C.1, C.2, C.3
<input type="checkbox"/>	<input type="checkbox"/>	Trout Lakes	C.1, C.2, C.3
<input type="checkbox"/>	<input type="checkbox"/>	Scientific and Natural areas	C.1, C.2, C.3
<input type="checkbox"/>	<input type="checkbox"/>	Trout Streams	C.1, C.2, C.3, C.4
<input type="checkbox"/>	<input type="checkbox"/>	Calcareous fens	C.1, C.2

Yes	N/A	Impaired water	BMP category
<input type="checkbox"/>	<input type="checkbox"/>	TMDL and/or WLA not yet approved	C.1, C.2
<input type="checkbox"/>	<input type="checkbox"/>	Approved TMDL and WLA	BMPs in TMDL

TMDL = Total Maximum Daily Loads
WLA = Waste Load Allocations

BMP category Requirement

Yes N/A

- ☐ ☐ C.1 Stabilization initiated immediately and all soils protected in seven days/provide temp basin for five acres draining to common location.
- ☐ ☐ C.2 Treat water quality volume of one inch of runoff by retaining on site unless not feasible due to site conditions (See Part III.D.1. design requirements).
- ☐ ☐ C.3 Maintain buffer zone of 100 linear feet from Special Water.
- ☐ ☐ C.4 Temperature controls.

Comments: _____

- ☐ ☐ Does this site have a discharge with the potential for adverse impact to wetlands:

Yes N/A

- ☐ ☐ Has the wetland mitigation sequence (avoid, minimize, mitigate) been followed/satisfied by?
- ☐ Impact activity is permitted by either the Wetlands Conservation Act, DNR, or U.S. Army Corps of Engineers.
- ☐ Compliance with 7050.0186 is documented to the MPCA and approved.

Comments: _____

**MINNESOTA DEPARTMENT OF LABOR AND INDUSTRY PREVAILING WAGES FOR STATE
FUNDED CONSTRUCTION PROJECTS**



THIS NOTICE MUST BE POSTED ON THE JOBSITE IN A CONSPICUOUS PLACE

Construction Type: Highway and Heavy

Region Number: 09

Counties within region:

- ANOKA-02
- CARVER-10
- CHISAGO-13
- DAKOTA-19
- HENNEPIN-27
- RAMSEY-62
- SCOTT-70
- WASHINGTON-82

Effective: 2015-10-12 Revised: 2015-12-29

This project is covered by Minnesota prevailing wage statutes. Wage rates listed below are the minimum hourly rates to be paid on this project.

All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at a rate of one and one half (1 1/2) times the basic hourly rate.

Violations should be reported to:

Department of Transportation
Office of Construction
Transportation Building MS650
John Ireland Blvd
St. Paul, MN 55155
(651) 366-4209

Refer questions concerning the prevailing wage rates to:

Department of Labor and Industry
Prevailing Wage Section
443 Lafayette Road N
St Paul, MN 55155
(651) 284-5091
DLI.PrevWage@state.mn.us

LABOR CODE AND CLASS	EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
LABORERS (101 - 112) (SPECIAL CRAFTS 701 - 730)				
101 LABORER, COMMON (GENERAL LABOR WORK)	2015-10-12	28.94	16.89	45.83
	2016-05-01	29.95	17.49	47.44
102 LABORER, SKILLED (ASSISTING SKILLED CRAFT JOURNEYMAN)	2015-10-12	28.94	16.89	45.83
	2016-05-01	29.95	17.49	47.44
103 LABORER, LANDSCAPING (GARDENER, SOD LAYER AND NURSERY OPERATOR)	2015-10-12	20.01	13.54	33.55
	2016-05-01	21.17	13.99	35.16
104 FLAG PERSON	2015-10-12	28.94	16.89	45.83
	2016-05-01	29.95	17.49	47.44
105 WATCH PERSON	2015-10-12	25.54	16.34	41.88
	2016-05-01	26.55	16.94	43.49
106 BLASTER	2015-10-12	31.94	16.89	48.83
	2016-05-01	32.95	17.49	50.44
107 PIPELAYER (WATER, SEWER AND GAS)	2015-10-12	31.44	16.89	48.33
	2016-05-01	32.45	17.49	49.94
108 TUNNEL MINER	2015-10-12	29.64	16.89	46.53
	2016-05-01	30.65	17.49	48.14
109 UNDERGROUND AND OPEN DITCH LABORER (EIGHT FEET BELOW STARTING GRADE LEVEL)	2015-10-12	29.64	16.89	46.53
	2016-05-01	30.65	17.49	48.14
110 SURVEY FIELD TECHNICIAN (OPERATE TOTAL STATION, GPS RECEIVER, LEVEL, ROD OR RANGE)	2015-10-12	28.94	16.89	45.83

POLES, STEEL TAPE MEASUREMENT; MARK AND DRIVE STAKES; HAND OR POWER DIGGING FOR AND IDENTIFICATION OF MARKERS OR MONUMENTS; PERFORM AND CHECK CALCULATIONS; REVIEW AND UNDERSTAND CONSTRUCTION PLANS AND LAND SURVEY MATERIALS). THIS CLASSIFICATION DOES NOT APPLY TO THE WORK PERFORMED ON A PREVAILING WAGE PROJECT BY A LAND SURVEYOR WHO IS LICENSED PURSUANT TO MINNESOTA STATUTES, SECTIONS 326.02 TO 326.15.

	2016-05-01	29.95	17.49	47.44
111 TRAFFIC CONTROL PERSON (TEMPORARY SIGNAGE)	2015-10-12	28.94	16.89	45.83
	2016-05-01	29.95	17.49	47.44
112 QUALITY CONTROL TESTER (FIELD AND COVERED OFF-SITE FACILITIES; TESTING OF AGGREGATE, ASPHALT, AND CONCRETE MATERIALS); LIMITED TO MN DOT HIGHWAY AND HEAVY CONSTRUCTION PROJECTS WHERE THE MN DOT HAS RETAINED QUALITY ASSURANCE PROFESSIONALS TO REVIEW AND INTERPRET THE RESULTS OF QUALITY CONTROL TESTERS. SERVICES PROVIDED BY THE CONTRACTOR.	2015-10-12	16.28	4.07	20.35

SPECIAL EQUIPMENT (201 - 204)

201 ARTICULATED HAULER	2015-10-12	31.77	17.20	48.97
202 BOOM TRUCK	2015-10-12	32.93	17.90	50.83
	2016-05-01	33.54	18.90	52.44
203 LANDSCAPING EQUIPMENT, INCLUDES HYDRO SEEDER OR MULCHER, SOD ROLLER, FARM TRACTOR WITH ATTACHMENT SPECIFICALLY SEEDING, SODDING, OR PLANT, AND TWO-FRAMED FORKLIFT (EXCLUDING FRONT, POSIT-TRACK, AND SKID STEER LOADERS), NO EARTHWORK OR GRADING FOR ELEVATIONS	2015-10-12	20.01	13.54	33.55
	2016-05-01	21.17	13.99	35.16
204 OFF-ROAD TRUCK	2015-10-12	32.93	17.90	50.83
	2016-05-01	33.54	18.90	52.44

205	PAVEMENT MARKING OR MARKING REMOVAL EQUIPMENT (ONE OR TWO PERSON OPERATORS); SELF-PROPELLED TRUCK OR TRAILER MOUNTED UNITS.	2015-10-12	32.04	18.26	50.30
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HIGHWAY/HEAVY POWER EQUIPMENT OPERATOR

GROUP 2	2015-10-12	33.78	17.90	51.68
	2016-05-01	34.39	18.90	53.29

302 HELICOPTER PILOT (HIGHWAY AND HEAVY ONLY)

303 CONCRETE PUMP (HIGHWAY AND HEAVY ONLY)

304 ALL CRANES WITH OVER 135-FOOT BOOM, EXCLUDING JIB (HIGHWAY AND HEAVY ONLY)

305 DRAGLINE, CRAWLER, HYDRAULIC BACKHOE (TRACK OR WHEEL MOUNTED) AND/OR OTHER SIMILAR EQUIPMENT WITH SHOVEL-TYPE CONTROLS THREE CUBIC YARDS AND OVER MANUFACTURER.S RATED CAPACITY INCLUDING ALL ATTACHMENTS. (HIGHWAY AND HEAVY ONLY)

306 GRADER OR MOTOR PATROL

307 PILE DRIVING (HIGHWAY AND HEAVY ONLY)

308 TUGBOAT 100 H.P. AND OVER WHEN LICENSE REQUIRED (HIGHWAY AND HEAVY ONLY)

GROUP 3	2015-10-12	33.23	17.90	51.13
	2016-05-01	33.84	18.90	52.74

309 ASPHALT BITUMINOUS STABILIZER PLANT

310 CABLEWAY

311 CONCRETE MIXER, STATIONARY PLANT (HIGHWAY AND HEAVY ONLY)

312 DERRICK (GUY OR STIFFLEG)(POWER)(SKIDS OR STATIONARY) (HIGHWAY AND HEAVY ONLY)

313 DRAGLINE, CRAWLER, HYDRAULIC BACKHOE (TRACK OR WHEEL MOUNTED) AND/OR SIMILAR EQUIPMENT WITH SHOVEL-TYPE CONTROLS, UP TO THREE CUBIC YARDS MANUFACTURER.S RATED CAPACITY INCLUDING ALL ATTACHMENTS (HIGHWAY AND HEAVY ONLY)

314 DREDGE OR ENGINEERS, DREDGE (POWER) AND ENGINEER

315 FRONT END LOADER, FIVE CUBIC YARDS AND OVER INCLUDING ATTACHMENTS. (HIGHWAY AND HEAVY ONLY)

316 LOCOMOTIVE CRANE OPERATOR

317 MIXER (PAVING) CONCRETE PAVING, ROAD MOLE, INCLUDING MUCKING OPERATIONS, CONWAY OR SIMILAR TYPE

318 MECHANIC . WELDER ON POWER EQUIPMENT (HIGHWAY AND HEAVY ONLY)
 319 TRACTOR . BOOM TYPE (HIGHWAY AND HEAVY ONLY)
 320 TANDEM SCRAPER
 321 TRUCK CRANE . CRAWLER CRANE (HIGHWAY AND HEAVY ONLY)
 322 TUGBOAT 100 H.P AND OVER (HIGHWAY AND HEAVY ONLY)

GROUP 4	2015-10-12	32.93	17.90	50.83
	2016-05-01	33.54	18.90	52.44

323 AIR TRACK ROCK DRILL
 324 AUTOMATIC ROAD MACHINE (CMI OR SIMILAR) (HIGHWAY AND HEAVY ONLY)
 325 BACKFILLER OPERATOR
 326 CONCRETE BATCH PLANT OPERATOR (HIGHWAY AND HEAVY ONLY)
 327 BITUMINOUS ROLLERS, RUBBER TIRED OR STEEL DRUMMED (EIGHT TONS AND OVER)
 328 BITUMINOUS SPREADER AND FINISHING MACHINES (POWER), INCLUDING PAVERS, MACRO SURFACING AND MICRO SURFACING, OR SIMILAR TYPES (OPERATOR AND SCREED PERSON)
 329 BROKK OR R.T.C. REMOTE CONTROL OR SIMILAR TYPE WITH ALL ATTACHMENTS
 330 CAT CHALLENGER TRACTORS OR SIMILAR TYPES PULLING ROCK WAGONS, BULLDOZERS AND SCRAPERS
 331 CHIP HARVESTER AND TREE CUTTER
 332 CONCRETE DISTRIBUTOR AND SPREADER FINISHING MACHINE, LONGITUDINAL FLOAT, JOINT MACHINE, AND SPRAY MACHINE
 333 CONCRETE MIXER ON JOBSITE (HIGHWAY AND HEAVY ONLY)
 334 CONCRETE MOBIL (HIGHWAY AND HEAVY ONLY)
 335 CRUSHING PLANT (GRAVEL AND STONE) OR GRAVEL WASHING, CRUSHING AND SCREENING PLANT
 336 CURB MACHINE
 337 DIRECTIONAL BORING MACHINE
 338 DOPE MACHINE (PIPELINE)
 339 DRILL RIGS, HEAVY ROTARY OR CHURN OR CABLE DRILL (HIGHWAY AND HEAVY ONLY)
 340 DUAL TRACTOR
 341 ELEVATING GRADER
 342 FORK LIFT OR STRADDLE CARRIER (HIGHWAY AND HEAVY ONLY)
 343 FORK LIFT OR LUMBER STACKER (HIGHWAY AND HEAVY ONLY)
 344 FRONT END, SKID STEER OVER 1 TO 5 C YD
 345 GPS REMOTE OPERATING OF EQUIPMENT
 346 HOIST ENGINEER (POWER) (HIGHWAY AND HEAVY ONLY)
 347 HYDRAULIC TREE PLANTER

- 348 LAUNCHER PERSON (TANKER PERSON OR PILOT LICENSE)
- 349 LOCOMOTIVE (HIGHWAY AND HEAVY ONLY)
- 350 MILLING, GRINDING, PLANING, FINE GRADE, OR TRIMMER MACHINE
- 351 MULTIPLE MACHINES, SUCH AS AIR COMPRESSORS, WELDING MACHINES, GENERATORS, PUMPS (HIGHWAY AND HEAVY ONLY)
- 352 PAVEMENT BREAKER OR TAMPING MACHINE (POWER DRIVEN) MIGHTY MITE OR SIMILAR TYPE
- 353 PICKUP SWEEPER, ONE CUBIC YARD AND OVER HOPPER CAPACITY(HIGHWAY AND HEAVY ONLY)
- 354 PIPELINE WRAPPING, CLEANING OR BENDING MACHINE
- 355 POWER PLANT ENGINEER, 100 KWH AND OVER (HIGHWAY AND HEAVY ONLY)
- 356 POWER ACTUATED HORIZONTAL BORING MACHINE, OVER SIX INCHES
- 357 PUGMILL
- 358 PUMPCRETE (HIGHWAY AND HEAVY ONLY)
- 359 RUBBER-TIRED FARM TRACTOR WITH BACKHOE INCLUDING ATTACHMENTS (HIGHWAY AND HEAVY ONLY)
- 360 SCRAPER
- 361 SELF-PROPELLED SOIL STABILIZER
- 362 SLIP FORM (POWER DRIVEN) (PAVING)
- 363 TIE TAMPER AND BALLAST MACHINE
- 364 TRACTOR, BULLDOZER (HIGHWAY AND HEAVY ONLY)
- 365 TRACTOR, WHEEL TYPE, OVER 50 H.P. WITH PTO UNRELATED TO LANDSCAPING (HIGHWAY AND HEAVY ONLY)
- 366 TRENCHING MACHINE (SEWER, WATER, GAS) EXCLUDES WALK BEHIND TRENCHER (HIGHWAY AND HEAVY ONLY)
- 367 TUB GRINDER, MORBARK, OR SIMILAR TYPE
- 368 WELL POINT DISMANTLING OR INSTALLATION (HIGHWAY AND HEAVY ONLY)

GROUP 5	2015-10-12	29.89	17.90	47.79
	2016-05-01	30.50	18.90	49.40

- 369 AIR COMPRESSOR, 600 CFM OR OVER (HIGHWAY AND HEAVY ONLY)
- 370 BITUMINOUS ROLLER (UNDER EIGHT TONS)
- 371 CONCRETE SAW (MULTIPLE BLADE) (POWER OPERATED)
- 372 FORM TRENCH DIGGER (POWER)
- 373 FRONT END, SKID STEER UP TO 1C YD
- 374 GUNITE GUNALL (HIGHWAY AND HEAVY ONLY)
- 375 HYDRAULIC LOG SPLITTER
- 376 LOADER (BARBER GREENE OR SIMILAR TYPE)

377	POST HOLE DRIVING MACHINE/POST HOLE AUGER				
378	POWER ACTUATED AUGER AND BORING MACHINE				
379	POWER ACTUATED JACK				
380	PUMP (HIGHWAY AND HEAVY ONLY)				
381	SELF-PROPELLED CHIP SPREADER (FLAHERTY OR SIMILAR)				
382	SHEEP FOOT COMPACTOR WITH BLADE . 200 H.P. AND OVER				
383	SHOULDERING MACHINE (POWER) APSCO OR SIMILAR TYPE INCLUDING SELF-PROPELLED SAND AND CHIP SPREADER				
384	STUMP CHIPPER AND TREE CHIPPER				
385	TREE FARMER (MACHINE)				

GROUP 6		2015-10-12	28.68	17.90	46.58
		2016-05-01	29.29	18.90	48.19
387	CAT, CHALLENGER, OR SIMILAR TYPE OF TRACTORS, WHEN PULLING DISK OR ROLLER				
388	CONVEYOR (HIGHWAY AND HEAVY ONLY)				
389	DREDGE DECK HAND				
390	FIRE PERSON OR TANK CAR HEATER (HIGHWAY AND HEAVY ONLY)				
391	GRAVEL SCREENING PLANT (PORTABLE NOT CRUSHING OR WASHING)				
392	GREASER (TRACTOR) (HIGHWAY AND HEAVY ONLY)				
393	LEVER PERSON				
394	OILER (POWER SHOVEL, CRANE, TRUCK CRANE, DRAGLINE, CRUSHERS, AND MILLING MACHINES, OR OTHER SIMILAR HEAVY EQUIPMENT) (HIGHWAY AND HEAVY ONLY)				
395	POWER SWEEPER				
396	SHEEP FOOT ROLLER AND ROLLERS ON GRAVEL COMPACTION, INCLUDING VIBRATING ROLLERS				
397	TRACTOR, WHEEL TYPE, OVER 50 H.P., UNRELATED TO LANDSCAPING				

TRUCK DRIVERS

GROUP 1		2015-10-12	29.10	15.20	44.30
		2016-05-01	30.55	15.20	45.75
601	MECHANIC . WELDER				
602	TRACTOR TRAILER DRIVER				
603	TRUCK DRIVER (HAULING MACHINERY INCLUDING OPERATION OF HAND AND POWER OPERATED WINCHES)				

GROUP 2		2015-10-12	28.55	15.20	43.75
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	2016-05-01	30.00	15.20	45.20
604 FOUR OR MORE AXLE UNIT, STRAIGHT BODY TRUCK				
GROUP 3	2015-10-12	28.45	15.20	43.65
	2016-05-01	29.90	15.20	45.10
605 BITUMINOUS DISTRIBUTOR DRIVER				
606 BITUMINOUS DISTRIBUTOR (ONE PERSON OPERATION)				
607 THREE AXLE UNITS				
GROUP 4	2015-10-12	28.20	15.20	43.40
	2016-05-01	29.65	15.20	44.85
608 BITUMINOUS DISTRIBUTOR SPRAY OPERATOR (REAR AND OILER)				
609 DUMP PERSON				
610 GREASER				
611 PILOT CAR DRIVER				
612 RUBBER-TIRED, SELF-PROPELLED PACKER UNDER 8 TONS				
613 TWO AXLE UNIT				
614 SLURRY OPERATOR				
615 TANK TRUCK HELPER (GAS, OIL, ROAD OIL, AND WATER)				
616 TRACTOR OPERATOR, UNDER 50 H.P.				
SPECIAL CRAFTS				
701 HEATING AND FROST INSULATORS	2015-10-12	42.31	20.74	63.05
	2016-06-01	44.26	20.74	65.00
702 BOILERMAKERS	2015-10-12	34.15	26.37	60.52
	2016-01-01	35.55	26.52	62.07
703 BRICKLAYERS	2015-10-12	35.70	18.13	53.83
704 CARPENTERS	2015-10-12	35.85	17.78	53.63
	2016-05-01	37.46	17.78	55.24
705 CARPET LAYERS (LINOLEUM)	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVIEWAGE@STATE.MN.US			

706 CEMENT MASONS	2015-10-12	35.54	17.57	53.11
707 ELECTRICIANS	2015-10-12	38.57	26.04	64.61
	2016-05-01	40.47	26.04	66.51
711 GROUND PERSON	2015-10-12	27.44	13.28	40.72
	2016-04-04	28.26	13.92	42.18
712 IRONWORKERS	2015-10-12	35.50	23.45	58.95
713 LINEMAN	2015-10-12	40.95	17.06	58.01
	2016-04-30	42.18	17.82	60.00
714 MILLWRIGHT	2015-10-12	33.93	20.23	54.16
715 PAINTERS (INCLUDING HAND BRUSHED, HAND SPRAYED, AND THE TAPING OF PAVEMENT MARKINGS)	2015-10-12	33.57	20.12	53.69
716 PILEDRIVER (INCLUDING VIBRATORY DRIVER OR EXTRACTOR FOR PILING AND SHEETING OPERATIONS)	2015-10-12	35.85	17.78	53.63
	2016-05-01	37.46	17.78	55.24
717 PIPEFITTERS . STEAMFITTERS	2015-10-12	42.35	24.49	66.84
719 PLUMBERS	2015-10-12	39.67	26.80	66.47
721 SHEET METAL WORKERS	2015-10-12	38.05	26.13	64.18
723 TERRAZZO WORKERS	FOR RATE CALL 651-284-5091 OR EMAIL DLIPREVIEWAGE@STATE.MN.US			
724 TILE SETTERS	2015-10-12	28.30	21.89	50.19
725 TILE FINISHERS				

FOR RATE CALL 651-284-5091 OR
 EMAIL
DLLPREVWAGE@STATE.MN.US

727 WIRING SYSTEM TECHNICIAN	2015-10-12	36.00	14.43	50.43
	2016-07-01	36.90	14.43	51.33

728 WIRING SYSTEMS INSTALLER	2015-10-12	25.21	12.02	37.23
	2016-07-01	25.84	12.02	37.86

729 ASBESTOS ABATEMENT WORKER	2015-10-12	29.13	15.96	45.09
	2016-01-01	30.13	16.41	46.54

730 SIGN ERECTOR	FOR RATE CALL 651-284-5091 OR EMAIL DLLPREVWAGE@STATE.MN.US			
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NOTICE OF CERTIFICATION OF TRUCK RENTAL RATES AND EFFECTIVE DATE PURSUANT TO MINNESOTA RULES, PART 5200.1105

From April 6, 2015, to June 5, 2015, the Department of Labor and Industry (DLI) conducted a truck operational cost survey. On January 25, 2016, the Commissioner of DLI certified the minimum truck rental rates for highway projects in the state's ten highway and heavy construction areas for trucks and drivers operating "four or more axle units, straight body trucks," "three axle units," "tractor only" and "tractor trailers." The certification followed publication of the Notice of Determination of Truck Rental Rates in the *State Register* on November 16, 2015, and the informal conference held pursuant to Minnesota Rules, part 5200.1105 on December 3, 2015.

According to Minnesota Rules, part 5200.1105, the purpose of the informal conference is for DLI to obtain further input regarding the proposed rates before the rates are certified. Approximately 8 individuals attended the informal conference. None of the attendees at the informal conference commented on the Determination of the Construction Truck Rental Rates or contacted the department with comments regarding the rates prior to the date of this Certification.

Truck rental rates are determined by adding the certified prevailing wage driver rate in each region to the statewide operating cost survey data. The minimum hourly truck rental rate for the four types of trucks in each area is certified to be as follows:

3 Axle Units				
	Effective Date	Certified 607 Driver Rate	Surveyed Operating Cost	Determined Truck Rental Rate
Region 1	Certification date	\$40.60	\$37.35	\$77.95
Region 2	Certification date	\$34.26	\$37.35	\$71.61
Region 3	Certification date	\$36.91	\$37.35	\$74.26
	May 1, 2016	\$38.36	\$37.35	\$75.71
Region 4	Certification date	\$40.63	\$37.35	\$77.98
Region 5	Certification date	\$43.65	\$37.35	\$81.00
	May 1, 2016	\$44.85	\$37.35	\$82.20
Region 6	Certification date	\$41.45	\$37.35	\$78.80
	May 1, 2016	\$42.90	\$37.35	\$80.25
Region 7	Certification date	\$36.91	\$37.35	\$74.26
	May 1, 2016	\$38.36	\$37.35	\$75.71
Region 8	Certification date	\$13.77	\$37.35	\$51.12
Region 9	Certification date	\$43.65	\$37.35	\$81.00

	May 1, 2016	\$45.10	\$37.35	\$82.45
Region 10	Certification date	\$13.77	\$37.35	\$51.12
4 or More Axle Units				
	Effective Date	Certified 604 Driver Rate	Surveyed Operating Cost	Determined Truck Rental Rate
Region 1	Certification date	\$40.70	\$50.82	\$91.52
Region 2	Certification date	\$37.06	\$50.82	\$87.88
	May 1, 2016	\$38.51	\$50.82	\$89.33
Region 3	Certification date	\$37.06	\$50.82	\$87.88
	May 1, 2016	\$38.51	\$50.82	\$89.33
Region 4	Certification date	\$23.88	\$50.82	\$74.70
Region 5	Certification date	\$28.17	\$50.82	\$78.99
Region 6	Certification date	\$41.55	\$50.82	\$92.37
	May 1, 2016	\$43.00	\$50.82	\$93.82
Region 7	Certification date	\$37.40	\$50.82	\$88.22
Region 8	Certification date	\$16.32	\$50.82	\$67.14
Region 9	Certification date	\$43.75	\$50.82	\$94.57
	May 1, 2016	\$45.20	\$50.82	\$96.02
Region 10	Certification date	\$16.02	\$50.82	\$66.84

Tractor						
	Effective Date	Certified 602 Driver Rate	Surveyed Operating Cost	Determined Tractor Only Truck Rental Rate	Plus Trailer Operating Cost	Determined Tractor Trailer Rental Rate
Region 1	Certification date	\$43.90	\$49.17	\$93.07	\$11.46	\$104.53
	May 1, 2016	\$45.35	\$49.17	\$94.52	\$11.46	\$105.98
Region 2	Certification date	\$37.57	\$49.17	\$86.74	\$11.46	\$98.20
	May 1, 2016	\$39.02	\$49.17	\$88.19	\$11.46	\$99.65
Region 3	Certification date	\$27.10	\$49.17	\$76.27	\$11.46	\$87.73
Region 4	Certification date	\$24.45	\$49.17	\$73.62	\$11.46	\$85.08
Region 5	Certification date	\$26.27	\$49.17	\$75.44	\$11.46	\$86.90
Region 6	Certification date	\$39.45	\$49.17	\$88.62	\$11.46	\$100.08

Region 7	Certification date	\$27.55	\$49.17	\$76.72	\$11.46	\$88.18
Region 8	Certification date	\$37.57	\$49.17	\$86.74	\$11.46	\$98.20
	May 1, 2016	\$39.02	\$49.17	\$88.19	\$11.46	\$99.65
Region 9	Certification date	\$44.30	\$49.17	\$93.47	\$11.46	\$104.93
	May 1, 2016	\$45.75	\$49.17	\$94.92	\$11.46	\$106.38
Region 10	Certification date	\$24.50	\$49.17	\$73.67	\$11.46	\$85.13

The minimum truck rental rate for these four types of trucks in the state's ten highway and heavy construction areas will be effective for all highway and heavy construction projects financed in whole or part with state funds advertised for bid on or after the day the notice of certification is published in the *State Register*.

Ken B. Peterson,

COMMISSIONER